

## **S E M I - A N N U A L I N D E X**

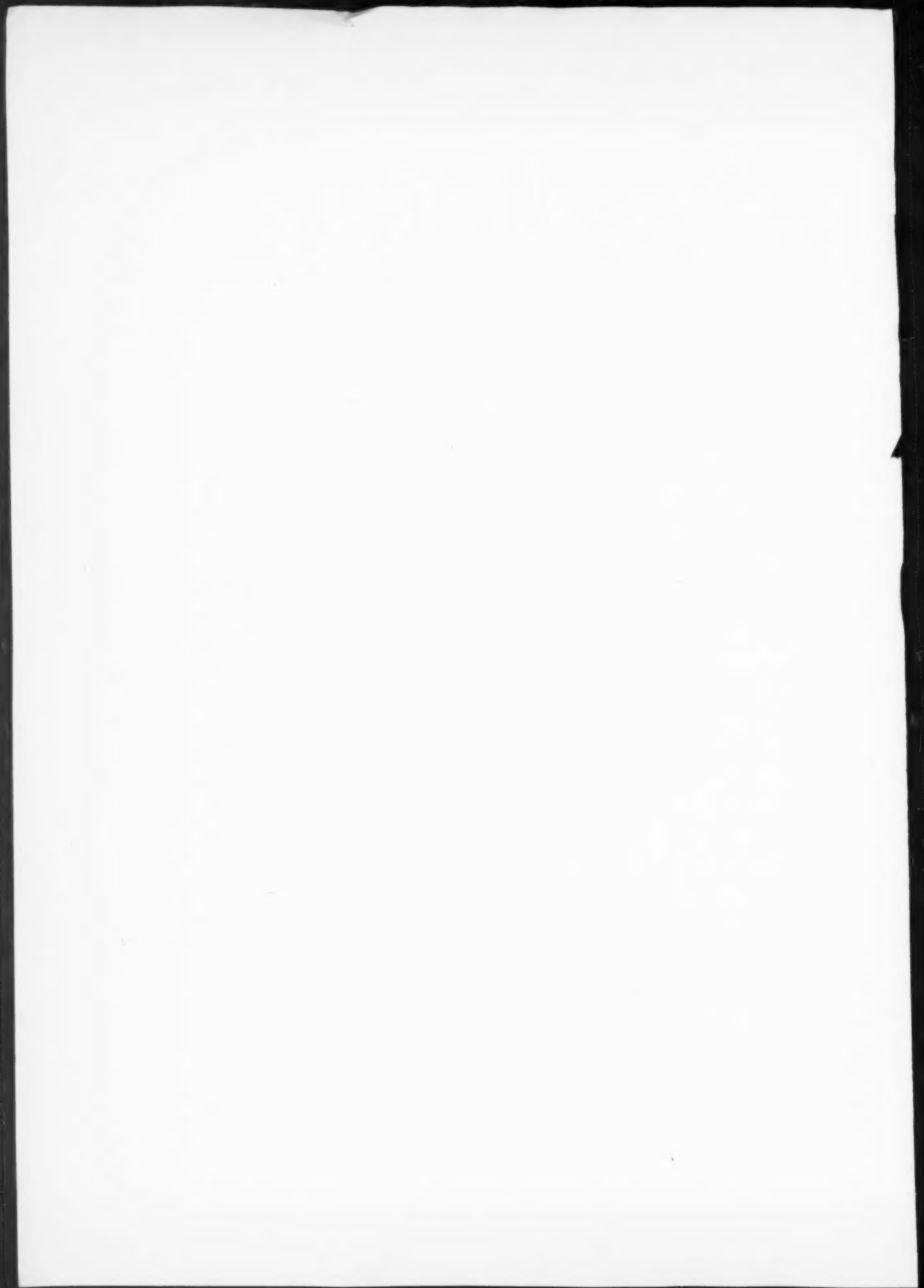
January - June 1956

Volume 177

### **Readership Research**

THE IRON AGE retains The Mills Shepard Organization to make a continuing study of its readership. This is done by a field force which interviews readers who hold various positions in many different types of companies. These detailed reports help keep us abreast of reader interest. They tell us what readers like or dislike; what subjects they would like to see emphasized; and they help us to improve the appearance of the magazine. In short, they are part of our effort to make THE IRON AGE more valuable to the reader.

THE EDITORS



## SEMI-ANNUAL INDEX

January - June 1956

Volume 177

### CLASSIFIED INDEX

#### A

##### Abrasives:

- Abrasive Wheels Simplify Steel Billet Cutting, by V. E. Lysaght, Feb 16 p 99
- Bonding: Find New Adhesive, Mar 1 p 106
- Computer System Specifies Correct Grinding Wheel Formulas, Jan 12 p 84
- How to Get More for Your Finishing Dollar, Section 2 Metal Cleaning and Finishing Handbook, June 28 p 105
- Structural Metal-to-Metal Bonding Adhesive Described, Mar 1 p 94

##### Adhesives, see also Sealants

##### Air Conditioning:

- How to Beat The Heat, June 21 p 89
- It's a Hot Market, by R. D. Radant, Apr 5 p 66
- Keeping Down Dust Makes Good Plant Sense, Apr 19 p 104

##### Aircraft, Engines and Parts:

- Crane Permits Changing Aircraft Parts Anywhere, May 24 p 196
- How to Design For Top Fabricating Economy, Jan 26 p 78
- Vacuum Brazing Gains, Jan 12 p 96

##### Aircraft Industry:

- Aircraft: Where Should the Money Go? by N. R. Regeimbal, Mar 8 p 124

##### Air Reduction Sales Co.:

- Welding Job Made Easier With Dual-Gas Setup, by F. K. Mack, May 3 p 104

##### Allis-Chalmers Mfg. Co.:

- Ultrasonic Field Inspection Spots Danger Early, by R. N. Hafemeister, Mar 22 p 88
- Alloy Steels Extend Machine Tool Service Life, by R. T. Hook, Apr 26 p 101
- Alloys: New Building Steel, Apr 5 p 124
- How to Get Better Welds in a Weldable Steel, by H. S. Davis, Jan 19 p 70
- How To Get More For Your Stainless Steel Dollar, Section 1, Purchasing, Feb 2 p 82
- Low Carbon, Low Nitrogen Improve Stainless Properties, by F. C. Monkman & N. J. Grant, May 31 p 67
- New Carbureting Steels For Critical Gearing, by R. S. Archer, V. A. Crosby and G. A. Timmons, Part 1, Feb 9 p 92; Part 2, Feb 23 p 96
- Nuclear Industry Wants Better Steels, by R. C. Dalzell, June 21 p 112

##### Alloys:

- Aluminum Casting Alloy Contains Less Nickel, Mar 15 p 114
- Annual Review, Jan 5 p 172
- Braze Strong Joints With Self-Fluxing Alloys, by D. A. Canonico, Nicholas Bredz & Harold Schwartzbart, June 14 p 98

- Can Tin-Zinc Plating Improve Your Products? By F. A. Lowenheim & R. T. Gore, Mar 15 p 92
- "Cold Weld" Nickel Alloys for Atom Plant Use, by E. Nutter, Feb 16 p 111
- Hardfacing: Conveyor Parts Alloy Hardfaced Last 10 Times Longer, Apr 12 p 124
- Hardfacing: Fast Deposit Rate Claimed for Magnetic Alloy Additives, Mar 1 p 106
- How to Get More for Your Finishing Dollar, Section 2 Metal Cleaning and Finishing Handbook, June 28 p 105
- How to Get More For Your Metalworking Dollar, Welding, Section 2 Materials, by O. T. Barnett, Apr 26 p 96
- Is Bronze Plating Your Next Step? by R. T. Gore and F. A. Lowenheim, Feb 16 p 104
- Metals: New Alloy Incorporates High Tensile Strength, Apr 5 p 142
- Vacuum Casting Service Using Certified Alloys, by W. G. Patton, May 17 p 94
- Why Is The Big Money Behind Vacuum Metals? By P. M. Unterweiser, Jan 26 p 67

##### Aluminum:

- Aluminum Cited Better for Power Cable Sheathing, May 10 p 133
- Aluminizing Curbs High Temperature Erosion, by W. G. Patton, Jan 12 p 74
- Annual Review, Jan 5 p 140
- Anodized Aluminum: Rainbow Hues Have "Pot - o' - Gold" Future, by W. G. Patton, May 3 p 95
- Are Cutting Makes Debut in Tank Fabrication, Apr 5 p 102
- Controlled Anodizing Is Used to Get Gold-Colored Aluminum, Mar 22 p 113
- Corrugated Aluminum Jacketing Gives 97 Per Cent More Strength, June 14 p 136
- Diecasting: Aluminum Succeeds, Apr 12 p 120
- Fluxless Aluminum Joining Avoids Joint Corrosion, by Samuel Freedman, Mar 1 p 71
- It's Going After Oil, by G. G. Carr, Feb 16 p 67
- Machining: Hollow Aluminum Bar Stock Available, Apr 5 p 135
- Metal Finish: Aluminum Wire Anodized for Electrical Uses, Apr 12 p 132
- New Building Trends Expand Anodizers' Market, Jan 19 p 74
- Pushbutton Setup Welds Aluminum Tubing Joints, by Robert Loose, Mar 1 p 80
- Weld Aluminum Two Ways in Mass Production Setup, by L. W. Kunkler, June 7 p 122

##### American Chain & Cable Co.:

- Abrasive Wheels Simplify Steel Billet Cutting, by V. E. Lysaght, Feb 16 p 99

##### Appliances, Electric:

- High-Speed Welder Tests Own Joints, by Glen Farrington, Mar 15 p 96
- Records, Not Obituaries, by K. W. Bennett, May 24 p 102

##### Armour Research Foundation:

- Braze Strong Joints With Self-Fluxing Alloys, by D. A. Canonico, Nicholas Bredz & Harold Schwartzbart, June 14 p 98

##### Asbestos:

- Giant Stress Relieving Jacket Keeps Heat on Job, Apr 26 p 104

##### Atomic Energy:

- Annual Review, Jan. 5 p 148
- "Cold Weld" Nickel Alloys for Atom Plant Use, by E. Nutter, Feb 16 p 111
- Combination Rolling Mill Processes Reactor Parts, Jan 12 p 98
- Fabricating: Sheets of Gold Welded into Nuclear Vessel, Feb 2 p 118
- Government Grip Slips, by G. F. Sullivan, Apr 5 p 62
- Handling Case Histories, May 24 p 165
- Radioactivity Detector Has Geiger Multiplier, June 28 p 95
- Nuclear Fuel: Fabricating Goes Private, May 24 p 104
- Nuclear Industry Wants Better Steels, by R. C. Dalzell, June 21 p 112
- Nuclear Standards Board Created by ASA, June 21 p 146
- Plan Nuclear Tester for Private Industry, Apr 19 p 136
- Private Industry Needs Help, by N. R. Regeimbal, March 15 p 112
- Reactors: U. S. Leads Global Race, June 14 p 64
- Remelting Can Decontaminate Metals Having Radioactivity, May 10 p 124
- What Can Radioisotopes Do for Metalworkers? By C. B. Moore, Mar 29 p 63
- Automation, see Machine Tools; also special subjects

##### Automobiles and Trucks:

- Do You Really Need More Storage Space? by J. H. Lewis, Feb 9 p 96

##### Automobiles and Trucks, see also Automotive Industry

##### Automobiles and Trucks, Engines and Parts:

- Aluminizing Curbs High Temperature Erosion, by W. G. Patton, Jan 12 p 74
- Can Precision Casters Meet Gas Turbine Needs? Jan 12 p 80
- Merry-Go-Round Machine Aids Brake Band Production, Jan 12 p 103
- Step up Stamping Production With Flexible Press, by W. G. Patton, June 21 p 120

##### Automotive Industry:

- Casting, Jan 5 p 164
- Seal Riveted Trailers Against Submersion, Jan 19 p 72
- Stamping And Forming, Jan 5 p 166
- Trucks Use Same Attachment to Handle Pallets, Drums, May 24 p 197

#### B

##### Batteries, see Electrical Equipment

##### Bearings:

- High Speed Spindle Mounting Holds Bearing Adjustment, Jan 19 p 113
- New Bearings Convert Old Machines to Ultraspeeds, by J. F. Kopcynski, May 10 p 104

##### Bell Aircraft Corp.:

- Control Heat to Drop Titanium Forming Costs, by A. E. Leach and H. M. Lundstrom, Feb 9 p 98

##### Bell Telephone Laboratories, Inc.:

- Stop Playing Hide-and-Seek with Engineering Drawings, by C. M. Gaston, May 17 p 100

##### Brazing:

- Braze Strong Joints With Self-Fluxing Alloys, by D. A. Canonico, Nicholas Bredz & Harold Schwartzbart, June 14 p 98
- Ceramic Brazing Jigs Cut Cycle Time, Raise Output, by Herbert Schwartz, Jan 12 p 71
- Combined Brazing - Hardening Aids Jet Engine Valves, Apr 12 p 136
- Good Control Makes Titanium Welding a Shop Tool, by F. D. Seaman, May 31 p 64
- Good Handling Steps up Brazing Furnace Output, by D. W. Owen, Jan 19 p 78
- Pushbutton Setup Welds Aluminum Tubing Joints, by Robert Loose, Mar 1 p 80
- Technique Uses Bead Filler, Applies Alloy Inside, Jan 19 p 93
- Vacuum Brazing Gains, Jan 12 p 96

##### Broaching:

- Broaching Does Fast Job on Slots and Odd-Shaped Holes, by W. G. Patton, June 7 p 118

##### Bronze, see Alloys

##### Business:

- Expansive in '56, Mar 22 p 42
- Forecasting: A Defense Cycle Rebuttal, by Theodore Levitt, Apr 5 p 64
- Is "Business Cycle" Old Hat? by Eliot Janeway, Mar 1 p 30
- Philco: Fight For Life, Apr 12 p 63
- Offset: Flush Is The Word, by F. J. Starin, Mar 15 p 49
- Plant Gambling: You Can't Beat the Odds, Mar 22, p 35
- Steel: Hold Onto Your Hat in '56, by Tom Campbell, Jan 12 p 35
- Warehouses: Cost Controls Are Needed, by G. F. Sullivan, Apr 19 p 59
- Westinghouse: How Stockholders React, by G. J. McManus, Apr 12 p 62

#### C

##### Cables:

- Metal Cable Trough Has Many Assets, June 21 p 136

**Cables, see also Wire****Cadmium:**

New Process Developed for Cadmium Deposition, Feb 16 p 131

**Cast Iron:**

New Carbide Tool Drills Cast Iron Ten Times Faster, Feb 9 p 87

**Casting, Centrifugal:**

New Engine Block Design Advantages Cited, Feb 16 p 137

**Casting, Die:**

Air Pre-Cleaners Handled on Job Shop Die Caster, June 14 p 134  
Aluminum Succeeds, Apr 12 p 129  
Cost of Housing Cut With Magnesium Casting, Jan 19 p 102  
Diecasting: Double Chamber Furnace Better Metal Melting, May 10 p 121  
Multiple Parts Are Cast in Single Operation, June 7 p 142  
Waist-High Setup Speeds Drilling, Reaming, May 31 p 74  
Why All Graphs Point Up, Mar 15 p 45

**Casting, Investment:**

Can Precision Casters Meet Gas Turbine Needs? Jan 12 p 80  
Single Glass Mold Smooths Casting Wrinkles, by P. M. Unterweiser, May 10 p 91

**Casting, Sand:**

Annual Review, Jan 5 p 164  
Binder Developed to Aid Core and Mold Production, Feb 2 p 100  
Foundry: Core Box Inserts, June 14 p 120  
Zircon Sands Solve Mold Problem, Jan 12 p 100  
Cure Cores With CO<sub>2</sub> — In Seconds, by P. M. Unterweiser, Apr 12 p 95

**Casting, Vacuum:**

Why Is The Big Money Behind Vacuum Metals? By P. M. Unterweiser, Jan 26 p 67  
Vacuum Casting Service Using Certified Alloys, by W. G. Patton, May 17 p 94

**Castings, Ferrous:**

Entries Sought in Gray Iron Castings Competition, May 17 p 117  
Small Shop Flights Back with Casting Quality, by A. W. Schneble, May 3 p 98  
Speedy Shell Molding Saves Machining Time, by W. G. Patton, Apr 5 p 99  
Take a New Look, Mar 29 p 22

**Castings, Nonferrous:**

Beryllium Copper Parts Give Durability, Accuracy, Feb 2 p 114  
Die Casting: Aluminum, Zinc and Bronze Castings Combined, Feb 16 p 133  
Diecasting: Multiple Parts Are Cast in Single Operation, June 28 p 89  
New Aluminum Casting Alloy Contains Less Nickel, Mar 15 p 114  
Tube-In-Strip: Bonanza for Product Designers, by P. M. Unterweiser, Mar 29 p 59

**Ceramics:**

Ceramic Brazing Jigs Cut Cycle Time, Raise Output, by Herbert Schwartz, Jan 12 p 71  
Heat-Resistant Ceramic Supplied in Rope Form, Apr 5 p 144

**Chemalloy Electronics Corp.:**

Fluxless Aluminum Joining Avoids Joint Corrosion, by Samuel Freedman, Mar 1 p 71

**Chemical Industry:**

Chemicals: Metalworking's Big Market, by G. G. Carr, May 10 p 55  
Coke Products Show Gain, May 31 p 28

**Clad Metals:**

Bonding: Plastic-Clad Metal Gives Strength With Lightness, Feb 9 p 124  
German Coating Process Licensed in U. S., Feb 2 p 112

Out Of the Frying Pan, by G. J. McManus, June 21 p 63

Use of Pre-Plated Metals Gaining Wide Acclaim, June 7 p 144

**Cleaning and Finishing:**

Aluminizing Curbs High Temperature Erosion, by W. G. Patton, Jan 12 p 74  
Anodized Aluminum: Rainbow Hues Have "Pot-o'-Gold" Future, by W. G. Patton, May 3 p 95  
Assemble First For Lower Painting Costs, by Herbert Chase, Jan 26 p 73  
Automatic Buffing Provided For Complex Casting, Feb 16 p 138  
Ceramic Finish Circulating System is Hailed, June 14 p 139  
Control Anodizing is Used to Get Gold-Colored Aluminum, Mar 22 p 113  
Corrosion-Resistant Coat May Be Sprayed on, June 7 p 155  
Electrolytic Unit Plates Copper on Stainless Wire, May 3 p 118  
Electronic Structure Seen Key in Nickel Coatings, May 17 p 120  
Epoxy Resins Give Truck Rims Corrosion Guard, Apr 19 p 122  
Corrosion: Metal Alloy Coating Protects Ship Pipes, May 3 p 126  
Finishing: New Fluorescent Lighting Plant Uses New Methods, June 14 p 141  
Finishing: Pushbutton Control Used on Roll Blast Operation, Apr 19 p 126  
Glossary of Metal Cleaning and Finishing Terms, June 28 p 136  
How to Get More for Your Finishing Dollar, June 28, Section 2  
Metal Cleaning and Finishing Handbook, p 105  
Is Bronze Plating Your Next Step? by R. T. Gore and F. A. Lowenheim, Feb 16 p 104  
Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59  
Metal Finishing, Jan 5 p 175  
Metal Finish: Use of Pre-Plated Metals Gaining Wide Acclaim, June 7 p 144  
New Bright Nickel Process Undergoes Field Testing, May 17 p 118  
New Building Trends Expand Anodizers' Market, Jan 19 p 74  
New Process Developed for Cadmium Deposition, Feb 16 p 131  
New Peel, Crack or Chip Cited for New Finish, May 10 p 121  
Reduce Metal Finishing Costs With Die-Cut Tapes, June 21 p 122  
Plating Cycle Control Saves Time, Material, Feb 9 p 128  
Pewer Brushes Integrate Finishing Into Shop Line, May 31 p 71  
Scientists Check Oxygen Role in Iron-Enamel Adherence, Mar 22 p 106  
Simple Test Checks Aluminum Coating Uniformity, by H. J. Wittrock, Feb 16 p 102  
Shot-Blast Room for 40 Ton Weldments Operative, Apr 12 p 128  
Spray Diverse Products Without Changing Setup, Feb 9 p 102  
Spray-Welded Alloy Overlay Traces Part Life, Jan 12 p 83  
Standardized Barrel Tumbling Pays Off, June 21 p 115  
Why Not Blast Clean Large Equipment? Feb 23 p 102  
Zinc Castings Pre-Cleaned With Three New Chemicals, June 14 p 141

How to Get More for Your Finishing Dollar, June 28, Section 2

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Bronze Plating Your Next Step? by R. T. Gore and F. A. Lowenheim, Feb 16 p 104

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Is Tin-Nickel the New Plating Finish You Need? by R. T. Gore and F. A. Lowenheim, May 31 p 59

Jan 26 p 36

Materials Roundup, Jan 5 p 140

**Coils:**

Forming: Tubing is Expanded, Sized in Assemblies up to 72 in. Long, Mar 29 p 85

**Color, see Cleaning and Finishing****Computers, see Data Processing****Communications:**

House Organs: They Can Save Money, by R. O. Schulin, June 23 p 60  
Radio: Pocket Models Move into the Plant, by K. W. Bennett, Mar 21 p 37  
Costs: Are Your Phone Bills Zooming? by G. G. Carr, Jan 19 p 31

**Construction:**

Alloys: New Building Steel, Apr 5 p 124  
Building Exterior Porcelain: Titanium Outside Next? June 14 p 130  
Building: Records for Equipment Makers, by K. W. Bennett, June 14 p 60  
Channel Struts Make Short Work of Construction, by W. G. Patton, Mar 1 p 67  
Contest Begun on Aluminum Curtain Wall Design, Feb 23 p 119  
Fabricating: Bridge Strand-Anchors Rods Will Support Hangar Roof, May 10 p 118  
Materials: Snap-On Members Speed Wall Installation, Jan 19 p 36  
New Building Trends Expand Anodizers' Market, Jan 19 p 74  
Replace Furnace Faster by Off-Site Construction, May 31 p 72  
Torsion Bars Control Torque in Nut Running Tools, Jan 26 p 57  
Turbines: Upstream Or Down, June 28 p 57

**Construction, see also Welded Construction****Containers:**

Solder Pellets Double Can Production, Feb 16 p 114

**Conventions:**

International Foundry Congress Will Be Held Sept 1 to 9, Apr 26 p 121  
Metalworking Meetings For 1956, Jan 5 p 270  
Tool Engineers' Show, Mar 8 p 194  
Material Handlers Move on Cleveland, May 24 p 170

**Coolants:**

Annual Review, Jan 5 p 160  
Coolant Switch Increases Machining Speeds, Tool Life, by Carl Seaburg, May 31 p 62  
New Carbide Tool Drills Cast Iron 7 Times Faster, Feb 9 p 87

**Copper:**

L. P. F.: Means More Copper, Feb 2 p 40  
Materials Roundup, Jan 5 p 140  
More Pesos for Producers, by F. J. Starin, May 17 p 55  
Mystery At The Mint, Jan 19 p 36  
Ulcers Aren't In Season, by F. J. Starin, June 21 p 62

**Corrosion:**

Fluxless Aluminum Joining Avoids Joint Corrosion, by Samuel Freedman, Mar 1 p 71  
How to Get More for Your Finishing Dollar, Section 2  
Metal Cleaning and Finishing Handbook, June 28 p 122  
Velocity's Part in Metal Corrosion Explained, Apr 12 p 135

**Curtiss-Wright Corp.:**

Tests Probe Limits of Controlled Shot Peening, by Wesley W. Saffee, Mar 1 p 76

**D****Data Processing:**

Automatic Embosser Eliminates Hand Wiring of Tags, Feb 2 p 98

**Computer System Specifies Correct Grinding Wheel Formulas,**

Jan 12 p 84

**Stop Playing Hide-and-Seek with Engineering Drawings, by C. M. Gaston, May 17 p 100**

Man-Made Brains: Show Human Profits, by K. W. Bennett, Jan 12 p 34

**Two Digital Computers Share Single Problem, Apr 26 p 131****Deburring:**

How to Get More for Your Finishing Dollar, Section 2  
Metal Cleaning and Finishing Handbook, June 28 p 105  
Standardized Barrel Tumbling Pays Off, June 21 p 115  
Unit Deburs 200 Parts in One Hour, Jan 26 p 93

**Defense:**

Appropriations: Air Force Gets More, by R. M. Stroupe, June 28 p 62  
Dispersal: Where's the Incentive? Jan 19 p 27  
Plans: Which War Do You Mean? by G. J. McManus, Jan 26 p 84  
Ready: Air Force, Industry Teamwork, by R. M. Stroupe, Jan 12 p 40

**Design:**

Contest Begun on Aluminum Curtain Wall Design, Feb 23 p 119  
Cut Blanking Costs with Simplified Design, by Federico Strasser, Mar 15 p 83  
Designers: Try to Cut Costs, Up Quality, by P. J. Cathey, May 24 p 107  
Get Rid of Kinks by New Tube-Forming Methods, by W. G. Patton, Apr 19 p 95  
How to Design For Top Fabricating Economy, Jan 26 p 78  
Miniaturization: A Big Little Trend, by F. J. Starin, June 14 p 55

**Diamonds:**

Diamonds: Still on Upswing, March 29 p 23

**Dies:**

Are Poor Bends Draining Your Stamping Profits? By Federico Strasser, May 3 p 100  
Annual Review, Jan 5 p 164  
Composite Die Sections Trim Cutting Costs, June 7 p 121  
Design Dies Today, Start Stamping Tomorrow, by C. B. Moore, Apr 19 p 99  
Midget Die Stamps Out Variety of Parts, by Herbert Chase, June 21 p 110  
Permanent Dies Pare Hammer Stamping Costs, Jan 26 p 82  
Stamping And Forming, Jan 5 p 166  
Tryout Press Puts Squeeze on Downtime, by W. G. Patton, June 14 p 95  
Watch these Trends in Punch Press Purchasing, by W. S. Renier, Mar 29 p 66

**Diesels:**

New Diesel Engine, June 7 p 136  
Newly Designed Diesel Engine Locomotive Announced, Mar 1 p 93

**Drafting Equipment:**

Young Inventor Combines T-Square, Triangle and Ruler, Feb 2 p 108

**Drilling:**

Flexible Shaft Machine Simplifies Reaming, Jan 26 p 98  
New Carbide Tool Drills Cast Iron Ten Times Faster, Feb 9 p 87  
Waist-High Setup Speeds Drilling, Reaming, May 31 p 74

**E****Education:**

Scientists: They're Made, Not Born, May 3 p 58

**Electric Auto-Lite Co.:**

Standard Press Line Cuts Product Changeover Time, by E. F. Dow, Apr 19 p 108

**Electrical Equipment:**

Beryllium Copper Contacts Bet-

ter Printed Circuits, Apr 19 p 140  
Eagle-Eyed Inspection Tool Spots Faults Fast, Apr 12 p 106  
Metal Cable Trough Has Many Assets, June 21 p 136

#### Electrodes:

Metallurgy, Jan 5 p 172

#### Electronics Devices and Controls:

Double Metal Construction Projects Magnetic Tapes, June 14 p 138  
Electronic Devices Control Air Temperatures, June 14 p 137  
Electronic Stopwatch Boosts Weld Quality, Apr 19 p 106  
Electronic "Stop Watch" for Minute Timing, Feb 16 p 128  
Get Better Grinds with New Control Unit, by L. J. Torn, Mar 15 p 87  
Instruments: Springs Tested, May 3 p 116  
Magnetic-Tape Control Used to Discharge Packages, May 24 p 194  
Operatorless Tractor Guided Electronically, May 24 p 185  
Piano Roll Template Plays Complex Riveting Pattern, by J. D. Hutson, May 17 p 102  
Quality Control Travels with Portable Tester, Apr 5 p 112  
Television Plays Role in Controlling Press, Jan 12 p 101

#### Electroplating:

Annual Review, Jan 5 p 175  
Bright Nickel Process Cited For High Leveling and Speed, Feb 23 p 118  
Can Tin-Zinc Plating Improve Your Products? By F. A. Lowenheim & R. T. Gore, Mar 15 p 92  
How to Get More for Your Finishing Dollar, Section 1 Plating, June 28 p 98  
Is Tin-Nickel the New Plating Finish You Need? By R. T. Gore & F. A. Lowenheim, May 31 p 59  
Orderly Plant Layout Speeds Processing, Apr 12 p 134  
Photomicrographs Show New Process Characteristics, June 28 p 92  
Process is Centralized on Galvanizing Line, June 14 p 122

#### Engineers and Engineering:

Campus Recruiting: The Stampede Is On, by R. O. Schulin, May 24 p 105  
Engineers: Too Many Going Astray, by G. J. McManus, May 17 p 60  
Engineers: Lure Them With Climate, by G. G. Carr, June 7 p 82  
You Can Ease Engineering Bottleneck, Jan 12 p 31

#### Erosion:

Aluminizing Curbs High Temperature Erosion, by W. G. Patton, Jan 12 p 74

#### Evaporation:

Polyethylene Pillows Float and Stop Evaporation, June 21 p 146

#### Extrusion:

Tongs Move Ingots, Jan 19, p 92

## F

#### Fabrication:

Are Holes in Stampings Giving You Trouble? by Frederico Strasser, Apr 5 p 108  
Annual Review, Jan 5 p 172  
Auto Frames Bettered, Feb 16 p 124  
Ceramic Brazing Jigs Cut Cycle Time, Raise Output, by Herbert Schwartz, Jan 12 p 71  
Control Heat to Drop Titanium Forming Costs, by A. E. Leach and H. M. Lundstrom, Feb 9 p 98  
Cut Blanking Costs with Simplified Design, by Frederico Strasser, Mar 15 p 83  
Forged Steel Rings Improve Flanging on Condensers, Apr 19 p 134  
How to Design For Top Fabricating Economy, Jan 26 p 78

How To Get More For Your Stainless Steel Dollar, Section 2, Processing, Feb 2 p 90  
How to Weld Zirconium, by Hugh Justis & Chester Lawrence, Mar 22 p 79  
Large Hydraulic Press Brakes Form Heavy Steel Plates, Mar 1 p 102  
Piano Roll Template Plays Complex Riveting Pattern, by J. D. Hutson, May 17 p 102  
Tube-in-Strip: Bonanza for Product Designers, by P. M. Unterweiser, Mar 29 p 59  
Weld Giant Tunnel Tubes on Assembly Line, Feb 9 p 90

#### Fasteners:

Bolt-Nut Unit Handles 2000 Connecting Rods an Hour, Apr 12 p 122  
Gravity Feed Speeds Order Filling, Feb 23 p 114  
High Tensile Bolt, June 7 p 154  
Guide Gives Tips on Best Use of Screw Machine Products, Apr 26 p 124  
Fasteners: How to Hold New Markets, by T. M. Rohan, Jan 19 p 32  
Multi-Nutsetter Produces Bolted Assemblies Faster, Jan 12 p 86  
New Stud Fastener Better Insulated Sandwiches, Apr 12 p 142  
Sip-Squeeze Nuts Simplify Mocking-Up, Apr 26 p 130  
Torsion Bars Control Torque in Nut Running Tools, Jan 26 p 76

#### Filters:

Strong Mesh Sections Made Of Sheet Metal, Jan. 12 p 97

#### Fittings:

Pine Connections Sealed Without Sticky Goo, June 14 p 132

#### Flame Cutting:

Weld Giant Tunnel Tubes on Assembly Line, Feb 9 p 90

#### Foil:

Aluminum Sheet Produced to "Spider Web" Thinness, Apr 12 p 122

#### Foreign Trade:

Czechs Lead New Red Drive, Jan 19 p 35  
Exports: The Competition Is Rough, by K. W. Bennett, Mar 15 p 50  
Red-Bloc Divides Export Markets, June 7 p 80  
Russia: An American View of Red Industry, Feb 9 p 53  
Strange Renaming Aids Reds, by N. R. Regeimbal, Feb 23 p 58  
Venezuela: Metalworking Moves In, Apr 26 p 84

#### Forging:

Induction Heater Paces Speedy Forging, Bending Line, Mar 15 p 98  
Large Crankshaft Developed From 210,000 lb Ingot, May 10 p 132  
Resistance Heating Boosts Forging Efficiency, Feb 16 p 108  
Rings Developed for Dryers Cut Fabrication Costs, Jan 19 p 112  
Stud Welded to Billet Simplifies TONGING, Apr 12 p 143

#### Foundry:

Annual Review, Jan 5 p 164  
Announce Heat-Resistant Brick, Apr 5 p 142  
Cure Cores With CO<sub>2</sub> — In Seconds, by P. M. Unterweiser, Apr 12 p 95  
Handling Case Histories, May 24 p 165  
Humidity Control Aids Malleable Production, Feb 16 p 125  
Single Glass Mold Smoothes Casting Wrinkles, by P. M. Unterweiser, May 10 p 91  
Small Shop Fights Back with Casting Quality, by A. W. Schneble, May 3 p 98  
Speedy Shell Molding Saves Machining Time, by W. G. Patton, Apr 5 p 99

#### Furniture:

Metal Finishing, Jan 5 p 175  
Metals Crack Wood Monopoly, June 14 p 61  
Spray Diverse Products Without Changing Setup, Feb 9 p 102

#### Furnaces:

All-Basic: Openhearth, Keystone Steel & Wire Co., May 10 p 57  
Annual Review, Jan 5 p 177  
Diecasting: Double Chamber Furnace Better Metal Melting, May 10 p 121  
Handling Case Histories, May 24 p 165  
Lead Cells Measure Ore, Mar 1 p 92  
Replace Furnace Faster by Off-Site Construction, May 31 p 72  
Sampling System Provides On-Measurement in Open Hearths, Feb 16 p 141  
Tape Resistor Curing Uses Liquid Exchange, Feb 9 p 120  
Vertical Furnace Handles Parts over 10 ft Long, Mar 22 p 103

#### Furnaces, Vacuum:

Low Carbon, Low Nitrogen Improve Stainless Properties, by F. C. Monkman & N. J. Grant, May 31 p 67  
New Furnace Combines Annealing, Vacuum Degassing, Apr 12 p 102  
Vacuum Casting Service Using Certified Alloys, by W. G. Patton, May 17 p 94  
Why Is The Big Money Behind Vacuum Metals? By P. M. Unterweiser, Jan 26 p 67

## G

#### Gas:

L-P Boom Pushes Tank Makers, May 24 p 106

#### Gears:

Carbide Reamer Outproduces Six Grinders, Mar 1 p 82  
Cut Gears Better, Feb 9 p 112  
New Carburizing Steels for Critical Gearing, by R. S. Archer, V. A. Crosby and G. A. Timmons, Part 1, Feb 9 p 92; Part 2, Feb 23 p 96

#### General Motors Corp.:

How to Select Machine Tool Lubricants, by C. R. Gillette, Mar 22 p 75

#### Glass:

Single Glass Mold Smoothes Casting Wrinkles, by P. M. Unterweiser, May 10 p 91

#### Glossary:

Glossary of Metal Cleaning and Finishing Terms, June 28 p 136

#### Government:

Censorship: It Threatens Progress, by N. R. Regeimbal, Mar 22 p 40  
Budget: Will Prosperity Lower Taxes? by G. H. Baker, Jan 19 p 33  
IKE: No Time For Tax Cuts, Jan 12 p 37

#### Grinding:

Computer System Specifies Correct Grinding Wheel Formulas, Jan 12 p 84  
Four Standard Grinders Make Automated Crankpin Line, May 10 p 101  
Get Better Grinds with New Control Unit, by L. J. Torn, Mar 15 p 87  
Handling Case Histories, May 24 p 165  
Shop Modified Diesinker Tracer—Grinds Cams, Apr 26 p 108  
Single Grinders Work Three Times Faster Than Pairs, by W. G. Patton, Apr 12 p 99  
Surface Grind Wide Swath in One Pass, June 7 p 117

## H

#### Hardness:

New Carburizing Steels for Critical Gearing, by R. S. Archer, V. A. Crosby and G. A. Timmons, Part 1, Feb 9 p 92; Part 2, Feb 23 p 96

#### Heat Treating:

Annealing Process Gives Tube Better Finish, May 3 p 134  
Annual Review, Jan 5 p 177  
Benefits of Rotary Carburizing Shown, May 31 p 85

#### Get Top Quality Carburizing

With Zone Control, by H. C. Harris, June 21 p 107

#### High Alloy Castings Aid in Processing,

Jan 19 p 109

#### How To Get More For Your

Stainless Steel Dollar, Section 2, Processing, Feb 2 p 90

#### Induction Setup Hardens Teeth

by Pairs, June 14 p 110

#### New Carburizing Steels for Critical

Gearing, by R. S. Archer, V. A. Crosby and G. A. Timmons, Part 1, Feb 9 p 92; Part 2, Feb 23 p 96

#### New Furnace Combines Annealing,

Vacuum Degassing, Apr 12 p 102

#### Resistance Heating Boosts Forging

Efficiency, Feb 16 p 108

#### Steam Treatment Solves Tough

Tooling Problem, Apr 5 p 106

#### Tests Probe Limits of Controlled

Shot Peening, by Wesley W. Saefer, Mar 1 p 76

#### Use of Mechanized Handling

Speeds Tube Normalizing, Mar 15 p 112

#### Versatile Line, Apr 19 p 120

#### Heating & Heating Equipment:

Heat Pumps: They've Come of Age, by G. G. Carr, June 28 p 53

Heaters: A Customer Talks Back, Feb 2 p 39

Heating Units: What's The Trend? Mar 8 p 117

Infra-Red Heaters Used to Thaw Coal Cars, Mar 22 p 104

Infra-Red: It's Cooking With Gas, Jan 19 p 34

#### Hotpoint Co.:

Good Handling Steps up Brazing

Furnace Output, by D. W. Owen, Jan 19 p 78

Pushbutton Setup Welds Aluminum Tubing Joints, by Robert Loose, Mar 1 p 80

#### Induction Heating & Melting:

Induction Heater Paces Speedy

Forging, Bending Line, Mar 15 p 98

Induction Setup Hardens Teeth

by Pairs, June 14 p 110

Metallurgy, Jan 5 p 172

#### Industrial Relations:

Alcoholism: You Can Ease Its

Hendache, by G. G. Carr, Apr 19 p 62

All Isn't Joy as SUB Payments

Start, by T. L. Carry, May 24 p 99

Bosses: Do Your Workers Like

You? Feb 2 p 38

Behind U. S. Steel's Labor

Policy, by Tom Campbell, May 3 p 51

Embezzlement: Annual "Take"

Rises, by R. D. Raddant, Mar 1 p 34

How to Beat the Heat, June 21 p 89

How to Keep Your Operating

Team in Trim, by G. J. McManus, Mar 15 p 43

Lockout: Industry Hits State

Ruling, by G. J. McManus, Apr 26 p 60

Negotiations: According to Hoyle,

by Tom Campbell, June 14 p 58

Negotiations: Will Joint Talks

Work Out? by Tom Campbell, June 7 p 71

Noise: Industry's Big Problem

Child, Apr 26 p 59

Odds: 50-50 For Steel Labor

Peace, by Tom Campbell, Mar 8 p 115

Profit Sharing: Dividends for

Everybody, by K. W. Bennett, Apr 12 p 60

Steel Labor: Storm Signals Are

Up, by Tom Campbell, June 21 p 59

Unions: Your Engineers Are

Vulnerable, by K. W. Bennett, Feb 23 p 53

Westinghouse: Where Strike

Pinch Hurts, Feb 23 p 54

#### Industrial Relations, see also

#### Labor; Management

#### Instruments:

Controls: "Plug-In" Modules for

Design Economy, Apr 19 p 127

Eagle-Eyed Inspection Tool Spots

Faults Fast, Apr 12 p 106

Electric Controller Surface Measures Coil or Rolls, Mar 29 p 90  
Electronic Meter Traces Out Industrial Noise, May 10 p 117  
Electronic Recording Gage Speeds Gun Barrel Output, Apr 12 p 141  
Gamma Ray Projector Checks Welds of Pressure Vessels, Mar 22 p 101  
Measure Carbon, Mar 22 p 100  
Precision Assemble With Base Plate Method, May 10 p 98  
Radioactivity Detector Has Geiger Multiplier, June 23 p 95  
Testing Device Tracks Down Shaft Vibration, May 17 p 99  
Unit Measures Micro-Hardness at High Temperatures, Feb 9 p 122

#### Instruments, Laboratory:

Electronic "Stop Watch" for Minute Timing, Feb 16 p 128

#### Instruments, Process Control:

Aluminizing Curbs High Temperature Erosion, by W. G. Patton, Jan 12 p 74  
Annual Review, Jan 5 p 175  
Computer System Specifies Correct Grinding Wheel Formulas, Jan 12 p 84  
Controls Preselect Complete Rolling Schedules, Feb 2 p 100  
Merry-Go-Round Machine Aids Brake Band Production, Jan 12 p 103  
New Control Makes Press Operation Easier, by G. S. Wright, Mar 29 p 72  
Plating Cycle Control Saves Time, Material, Feb 9 p 128  
Rolling: Regulator Maintains Tension on Ultra-Thin Strip Line, Jan 26 p 96  
Sampling System Provides O<sub>2</sub> Measurement in Open Hearth, Feb 16 p 141  
Temperature Correction System Cuts Rejects by 17 Pct, Feb 16 p 139

#### Insulation:

Giant Stress Relieving Jacket Keeps Heat on Job, Apr 26 p 104

#### Inventories:

Big But Out-of-Balance, May 31 p 24  
Foolproof System Doublechecks Inventory, by Harrison Young, Mar 1 p 74  
Storekeeping, Time for a New Look, Jan 26 p 90

## J

#### Jigs, Fixtures:

Ceramic Brazing Jigs Cut Cycle Time, Raise Output, by Herbert Schwartz, Jan 12 p 71

#### Joining:

Brace Strong Joints With Self-Fluxing Alloys, by D. A. Canonico, Nicholas Bredas & Harold Schwartzbart, June 14 p 98  
Giant Machine Gets Extra Strength From Welding, by W. A. Morgan, May 10 p 95  
How to Get More for Your Metalworking Dollar, Welding, Section 1 Processes, Section 2 Materials, by O. T. Barnett, Apr 26 p 94  
New Technique Makes Tough Soldering Jobs Easy, May 10 p 102

## K

#### Kaiser Aluminum & Chemical Corp.:

Simple Test Checks Aluminum Coating Uniformity, by H. J. Wittrock, Feb 16 p 102

#### Kelsey-Hayes Wheel Co.:

Standard Tooling Forms Titanium Wheels, by W. L. Cameron & C. H. Savery, June 14 p 100

## L

#### Labor:

Inside USWA: What Makes It Tick? by J. B. Delaney, Apr 19 p 55  
McDonald: David and Goliath, Mar 29 p 25  
Salesmen: Court 'Em In Field, by G. J. McManus, June 7 p 77

Labor, see also Industrial Relations: Labor, Wages; Management

#### Labor, Wages:

Benefits: At Breaking Point? May 31 p 26  
Fringes: Creeping Up In Your Payroll, Feb 2 p 37  
How New Extras Affect Your Steel Bill, Jan 9 p 47  
Steel Heading For Overdue Stability, by Tom Campbell, June 28 p 51  
Steel: Union Price Tag Is High, by J. B. Delaney, May 24 p 101  
SUB: Kickbacks Keep Labor Off Balance, Mar 15 p 47

#### Lithium:

Brace Strong Joints With Self-Fluxing Alloys, by D. A. Canonico, Nicholas Bredas & Harold Schwartzbart, June 14 p 98

#### Lubricants:

Annual Review, Jan 5 p 160  
Chemists Troubleshoot Shop's Metalworking Puzzlers, by A. J. Zvarick, Apr 26 p 106  
How to Choose the Best Drawing Lubricant, by E. L. H. Bastian, June 14 p 102  
How to Select Machine Tool Lubricants, by C. R. Gillette, Mar 22 p 75  
Stabilized Molybdenum Disulfide Solves Corrosion Problem, Apr 5 p 143

#### Lubrication:

Centralized Lube Systems Will Take Temperatures to 500° F., June 7 p 148  
How to Get More for Your Handling Dollar, Part 3, Industrial Trucks, May 24 p 157  
Nylon Tubing Success in Carrying Lubricants, Apr 5 p 186

## M

#### Machinability:

How to Get More for Your Stainless Steel Dollar, Section 1, Purchasing, Feb 2 p 82  
How to Get More for Your Tooling Dollar, Section 2, Tool Steel Charts, Mar 8 p 169  
New Carburizing Steels for Critical Gearing, by R. S. Archer, V. A. Crosby and G. A. Timmons, Part 1, Feb 9 p 92; Part 2, Feb 23 p 96

#### Machine Tools:

Abrasive Wheels Simplify Steel Billet Cutting, by V. E. Lysaght, Feb 16 p 99  
Adding Automatic Components Benefits Standard Borer, May 17 p 126  
Annual Review, Jan 5 p 160  
Bonding: Merry-Go-Round Machine Aids Brake Band Production, Jan 12 p 103  
Four Standard Grinders Make Automated Crankpin Line, May 10 p 101  
How to Get More for Your Tooling Dollar, Section 1, Tooling, Mar 8 p 154  
New Bearings Convert Old Machines to Ultraspeeds, by J. F. Koczynski, May 10 p 104  
Planing: Cutter Completes Operation Without Tool Resetting, Mar 15 p 116

#### Machine Tools:

Speed Drilling with a Flexible Setup, Mar 29 p 71  
Unit Speeds Output, Mar 15 p 103  
When Are Tape Controls Practical? by E. J. Egan, Jr., Mar 8 p 118

#### Machine Tools, Broaching:

Broaching Does Fast Job on Slots and Odd-Shaped Holes by W. G. Patton, June 7 p 118  
Cam Sprags Are Broached at 1000 Per Hr Automatically, Feb 23 p 116  
Lever Arms Automatically Broached at 560 per Hr, May 3 p 125

#### Machine Tools, Gear Cutting and

Finishing:  
Alloy Steels Extend Machine Tool Service Life, by R. T. Hook, Apr 26 p 101  
Broaching Does Fast Job on Slots and Odd-Shaped Holes, by W. G. Patton, June 7 p 118  
Cut Gears Better, Feb 9 p 112  
High Speed Hobber Solves Auto Production Problem, June 21 p 140  
Single Grinders Work Three Times Faster Than Pairs, by W. G. Patton, Apr 12 p 99

#### Machine Tools, Grinding:

Carbide Reamer Outproduces Six Grinders, Mar 1 p 82  
Shop Modified Diesinker Tracer-Grinds Cams, Apr 26 p 108  
Single Grinders Work Three Times Faster Than Pairs, by W. G. Patton, Apr 12 p 99  
Table-Type Grinder Holds Close Blade Tolerances, Mar 29 p 74

#### Machine Tools, Lathes:

Alloy Steels Extend Machine Tool Service Life, by R. T. Hook, Apr 26 p 101  
"Throwaway" Ceramic Turns New Profits From Old Lathes, by E. J. Egan, Jr., May 3 p 91

#### Machine Tools, Milling:

Boost Your Machining Output with "Packaged" Setups, by E. J. Egan, Jr., May 17 p 91  
Cam Stud Fastener Production Increased 1000 Pct, Mar 1 p 95  
Large Rail Miller Readied for Installation, Feb 2 p 106  
Transfer Machine Makes Crankshafts Initially Straight, by W. G. Patton, Feb 23 p 87

#### Machinery:

Huge Saw Cuts Intricate Contours, Feb 23 p 103  
Multi-Purpose Machine Does Fast Assembly Job, Apr 5 p 114  
Precision Slicer Shaves Metal Waste, May 3 p 106  
Two Sandblasters May Blast From Same Supply Pot, June 14 p 136  
Unit Deburs 200 Parts In One Hour, Jan 26 p 93

#### Machinery, Agricultural:

Farm Market: More Valleys Than Peaks, by K. W. Bennett, Apr 19 p 80

#### Machinery, Presses:

Continuous Line Stamps, Welds Housings, Faster, by Herbert Chase, Feb 23 p 90  
Giant Machine Gets Extra Strength from Welding, by W. A. Morgan, May 10 p 95  
High Production Presses Double Lamination Output, May 3 p 118  
How Does a Contract Stamper Choose a Press? by C. C. Caditz, Jan 19 p 67  
Largest Press Compacts Metal Powder Parts, June 7 p 147  
Television Plays Role in Controlling Press, Jan 12 p 101  
New Control Makes Press Operation Easier, by G. S. Wright, Mar 29 p 72  
Shear Line Steps up Auto Muffler Output, May 3 p 124  
Standard Press Line Cuts Product Changeover Time, by E. F. Dow, Apr 19 p 103  
Step up Stamping Production With Flexible Press, by W. G. Patton, June 21 p 120  
Tooling: Heavy Die and Plate Floor on Air, June 7 p 145  
Tryout Press Puts Squeeze on Downtime, by W. G. Patton, June 14 p 95  
Versatile Press Line, Feb 23 p 112  
Watch these Trends in Punch Press Purchasing, by W. S. Renier, Mar 29 p 66

#### Machinery Industry:

Machinery: Slow Price Climb, May 3 p 60

#### Machining:

Annual Review, Jan 5 p 160  
Boost Your Machining Output with "Packaged" Setups, by E. J. Egan, Jr., May 17 p 91  
Broaching Does Fast Job on Slots and Odd-Shaped Holes, by W. G. Patton, June 7 p 118  
Cam Sprags Are Broached at 1000 Per Hr Automatically, Feb 23 p 116  
Carbide Tooling Cited for Faster Working, Apr 19 p 131  
Chamfering Time Cut 70 Pct by Switch to Cutting, May 10 p 122  
Coolant Switch Increases Machining Speeds, Tool Life, by Carl Seaburg, May 31 p 62  
Electrode Eroding, May 10 p 116  
How to Get More for Your Tooling Dollar, Section 1, Tooling, Mar 8 p 154  
Mass Production Operations Adopted to Small Output, June 14 p 126  
New Bearings Convert Old Machines to Ultraspeeds, by J. F. Koczynski, May 10 p 104  
Plates For Wind Tunnel Provide Difficult Job, Feb 9 p 126  
Precision Assemble With Base Plate Method, May 10 p 98  
Transfer Machine Makes Crankshafts Initially Straight, by W. G. Patton, Feb 23 p 87

#### Magnesium:

Annual Review, Jan 5 p 164  
Can Precision Casters Meet Gas Turbine Needs? Jan 12 p 80

#### Magnets:

Give Sheet Handling a Lift With Magnets, June 14 p 108

#### Maintenance:

How to Get More for Your Finishing Dollar, Section 1, Plating, June 28 p 100  
How to Get More for Your Tooling Dollar, Section 1, Tooling, Mar 8 p 154  
How to Select Machine Tool Lubricants, by C. R. Gillette, Mar 22 p 75  
Keeping Down Dust Makes Good Plant Sense, Apr 19 p 104  
Plant Upkeep: New Ideas Get Results, Feb 2 p 41  
Rebuilding Pickling Crates Doubles Service Life, Jan 12 p 102  
Spray-Welded Alloy Overlay Triples Part Life, Jan 12 p 83

#### Management:

Campus Recruiting: The Stampede Is On, by R. O. Schulin, May 24 p 105  
Conference Method Sparks Effective Safety Program, by A. M. Cooper, Jan 12 p 78  
Cut Paperwork with a Single-Form System, Mar 22 p 86  
Dispersal: Where's the Incentive? Jan 19 p 27  
Economy: Don't Give Up the Ship, by Tom Campbell, June 7 p 74  
Engineers: Lure Them With Climate, by G. G. Carr, June 7 p 82  
Engineers: Too Many Going Astray, by G. J. McManus, May 17 p 60  
Expansive in '56, Mar 22 p 42  
Foolproof System Doublechecks Inventory, by Harrison Young, Mar 1 p 74  
Forecasting: A Defense Cycle Rebuttal, by Theodore Levitt, Apr 5 p 64  
How to Beat The Heat, June 21 p 89  
How to Grow Management Talent, by Walter J. Semlow, May 31 p 19  
Is "Business Cycle" Old Hat? by Elliot Janeway, Mar 1 p 30  
Job Enlargement Is Worth Checking, by G. J. McManus, Feb 23 p 50  
Offices: Plush Is The Word, by F. J. Starin, Mar 15 p 49  
Philco: Fight For Live, Apr 12 p 63  
Plant Gambling: You Can't Beat the Odds, Mar 22 p 35  
Steel: Hold Onto Your Hat in '56, by Tom Campbell, Jan 12 p 85  
Stop Playing Hide-and-Seek with Engineering Drawings, by C. M. Gaston, May 17 p 100  
Two Digital Computers Share Single Problem, Apr 26 p 131  
Warehouses: Cost Controls Are Needed, by G. F. Sullivan,

Apr 19 p 59  
 Westinghouse: How Stockholders React, by G. J. McManus, Apr 12 p 62  
 You Can Ease Engineering Bottlenecks, Jan 12 p 31

**Management, See also specific subjects, i.e., Industrial Relations, Labor, Marketing, Plant Layout, Purchasing, etc.**

#### Marketing:

Auto Dealers: Are New Laws Necessary? by R. M. Stroupe, Jan 26 p 31  
 Brass Mills: Seek the Silver Lining, by G. G. Carr, June 7 p 73  
 Color Coding: New Ryerson System, May 10 p 55  
 Consumer Courses: Teach 'Em to Buy, by F. J. Starin, Mar 29 p 28  
 Indirect Selling: It Can Be a Short Cut, by G. J. McManus, March 8 p 122  
 Movies: Why Go Hollywood? by F. J. Starin, Jan 12 p 38  
 Why Research Gets Results, by G. J. McManus, June 28 p 58

#### Martin Company, Glenn L.:

How to Weld Zirconium, by Hugh Justis & Chester Lawrence, Mar 22 p 79

#### Material Handling:

All-Hydraulic Overhead Crane Has Variable Speed Control, Mar 1 p 92  
 Annual Review, Jan 5 p 170  
 Auto Firms Use New Press for Sheet-Scrap Baling, Mar 22 p 110  
 Case Histories, May 24 p 165  
 Carriers Ease Handling, Move Bars Still Hot, May 24 p 184  
 Cleveland Show, May 24 p 170  
 Conveyor Belt Won't Burn Under Metals at 1400°F, May 2 p 131  
 Electronic System Permits Crane Control From Floor, Feb 9 p 115  
 Equipment Sales Booming, by G. J. McManus, May 24 p 108  
 Give Sheet Handling a Lift With Magnets, June 14 p 108  
 High-Speed Feeders Aid Processing Tin Plate, Mar 15 p 109  
 How to Get More for Your Handling Dollar, May 24 p 150  
 One Man Pulls Strings on Giant Scrap System, by Herbert Chase, Apr 12 p 104  
 LPG: Savings For Truck Users, by D. G. Fleich, Mar 22 p 43  
 Platform Truck Can Handle Long Fabricated Sections, Apr 19 p 123  
 Rubber Conveyors Adapt Easily to Changing Plant Needs, by J. A. Muller, June 21 p 118  
 Railroster Hauler, June 21 p 132  
 Systematized Approach Pays Handling Profits, by J. G. Long, June 14 p 105  
 Trucks on Rails, May 31 p 84  
 Uniform Outputs Keyed to Better Handling, by Herbert Chase, Mar 15 p 90  
 Vacuum Bars and Cups Used to Transport Sheet, Jan 19 p 112  
 Tongs Move Ingots, Jan 19 p 92  
 Two New Handling Machines Cut Hazards, Up Output, June 14 p 121

#### Materials:

Announce Heat-Resistant Brick, Apr 5 p 142  
 Better Metallic Paste Pigment Described, Apr 5 p 139  
 Cold Welding Done With Epoxy Resin Material, June 14 p 131  
 Giant Stress Relieving Jacket Keeps Heat on Job, Apr 26 p 104  
 Made Diamonds, May 17 p 116  
 Metal-Plastic Compound Used in Making Molds, Dies, Mar 1 p 102  
 New Anionic Surface Active Agent Used in Cleaning, Apr 12 p 128  
 Throwaway "Ceramic" Cutter Machines All Metals, Apr 19 p 120  
 "Throwaway" Ceramic Turns New Profits from Old Lathes, by E. J. Egan, Jr., May 3 p 91

Mesh, see Filters

#### Metal Finishing:

See Cleaning and Finishing

#### Metal & Thermit Corp.:

Can Tin-Zinc Plating Improve Your Products? By F. A. Lowenheim & R. T. Gore, Mar 15 p 92  
 Is Bronze Plating Your Next Step? by R. T. Gore & F. A. Lowenheim, Feb 16 p 104  
 Is Tin-Nickel the New Plating Finish You Need? By R. T. Gore & F. A. Lowenheim, May 31 p 59

#### Metallizing:

Aluminum Curbs High Temperature Erosion, by W. G. Patton, Jan 12 p 74  
 Hardsurfacing: Shipyard Finds Metallizing Saves Time and Money, Feb 16 p 126

#### Metallurgy:

Annual Review, Jan 5 p 172  
 Can Specimen Size Affect Tensile Testing? By Edward Dugger & Alton Brisbane, Mar 22 p 82  
 Chemists Troubleshoot Shop's Metalworking Puzzlers, by I. J. Zvarick, Apr 26 p 106  
 Low Carbon, Low Nitrogen Improve Stainless Properties, by F. C. Monkman & N. J. Grant, May 31 p 67  
 Metals: Tiny Perfect Iron Crystals Take 1,900,000 Lb/Psi, June 21 p 133  
 New Carbide Steels for Critical Gearing, by R. S. Archer, V. A. Crosby and G. A. Timmons, Part 1, Feb 9 p 92; Part 2, Feb 23 p 96  
 Research: Measure Carbon, Mar 22 p 100  
 Trade Associations And Technical Societies, Jan 5 p 275

#### Military Equipment:

Standard Tooling Forms Titanium Wheels, by W. L. Cameron & C. H. Savery, June 14 p 100  
 Weld Aluminum Two Ways in Mass Production Setup, by L. W. Kunkler, June 7 p 122

#### Milling:

Chemical Milling Useful for Aircraft Work, Jan 19 p 108  
 Steam Treatment Solves Tough Tooling Problem, Apr 5 p 106  
 Transfer Machine Makes Crankshafts Initially Straight, by W. G. Patton, Feb 23 p 87

#### Molding, Molds:

Single Glass Mold Smooths Casting Wrinkles, by P. M. Unterweiser, May 10 p 91  
 Speedy Shell Molding Saves Machining Time, by W. G. Patton, Apr 5 p 99

#### Molybdenum:

New Carbide Steels For Critical Gearing, by R. S. Archer, V. A. Crosby and G. A. Timmons, Part 1, Feb 9 p 92; Part 2, Feb 23 p 96

## N

#### Nickel:

Nickel Alloys of Two Types for Turbine Application, June 14 p 125  
 Will Shortages Ever Ease? by F. J. Starin, Feb 23 p 47

#### Nitriding:

Heat Treating: Nitriding Process Recommended for Wear-Resistant Surfaces, Mar 15 p 118

#### Nonferrous Metals:

Aluminum: Fights Inroads In Aircraft, April 12 p 59  
 Annual Review, Jan 5 p 140  
 Can Tin-Zinc Plating Improve Your Products? By F. A. Lowenheim & R. T. Gore, Mar 15 p 92  
 LME: Its Worldwide Price Influence, by F. J. Starin, May 10 p 60  
 Columbium—Tantalum Improve Carbides, May 3 p 130  
 Magnesium Tooling Plant, by F. J. Starin, Mar 22 p 41  
 Nickel: User Grips Getting Results, by N. R. Regeimbal, June 14 p 62

Nuclear Industry Wants Better Steels, by R. C. Dalzell, June 21 p 112  
 Will Titanium Ever Go Commercial? By P. M. Unterweiser, June 7 p 111

#### Nonferrous Metals, see also Specific Metals, Alloys

#### Nonferrous Metals, Bending and Forming:

Control Heat to Drop Titanium Forming Costs, by A. E. Leach and H. M. Lundstrom, Feb 9 p 98  
 Design Dies Today, Start Stamping Tomorrow, by C. B. Moore, Apr 19 p 99  
 How to Get More for Your Metalworking Dollar, Welding, Section 2 Materials, by O. T. Barnett, Apr 26 p 96  
 Sheets of Gold Welded into Nuclear Vessel, Feb 2 p 118  
 Standard Tooling Forms Titanium Wheels, by W. L. Cameron & C. H. Savery, June 14 p 100  
 Straightening: Rotary Units Straighten, Temper Copper Tubing, Feb 9 p 113  
 Titanium Invades New Fields with Dee-Drawn Parts, by W. E. Lusby, Jr., L. J. Barron & R. J. Pardo, Mar 29 p 68  
 Tube-In-Strip: Bonanza for Product Designers, by P. M. Unterweiser, Mar 29 p 59

#### Nonferrous Metals, Treatment

Annual Review, Jan 5 p 172

#### Oil Industry:

Middle East Strife Means Trouble, by G. G. Carr, Mar 29 p 26

#### (The) Oliver Corp.:

New Control Makes Press Operation Easier, by G. S. Wright, Mar 29 p 72

#### Ore, Ferrous:

Annual Review, Jan 5 p 140  
 Iron Ore: Why Shippers Rush Season, by T. M. Rohan, Mar 29 p 27  
 Lump Ore: A "Gold" Mine Pans Out, by Tom Campbell, Jan 26 p 32  
 Ore Times: Press and Use, Mar 8 p 119  
 Taconite Gives New Life to Mesabi, by T. M. Rohan, Apr 12 p 55

## P

#### Packaging:

Gravity Feed Speeds Order Filling, Feb 23 p 114  
 How to Get More for Your Handling Dollar, Part 5, Palletizing, May 24 p 162  
 New Reel-Less Coil Package for Wire Introduced, May 24 p 186  
 Packaging, De-Reeling, Shipping Problems Are Solved, June 28 p 93  
 Plastic Film Recommended for Wrapping Machine Parts, May 24 p 190  
 Reusable Polyethylene Bags Provide Handy Part Storage, Feb 9 p 121

#### Paints and Painting:

Assemble First For Lower Painting Costs, by Herbert Chase, Jan 26 p 73  
 Automatic Fire System Minimizes Paint Shop Risks, Feb 23 p 94  
 Dual Spray Approach Can Tailor Your Coating Line, by Martin Abel, Jan 19 p 80  
 High Heat Paint Provides Protection up to 750°F, Feb 16 p 132  
 Industry Tops Humorists: Speckled Paint is Real, June 7 p 141  
 Paint Spray Setup Features Quality Work, Easy Maintenance, by W. G. Patton, May 17 p 96  
 Powdered Alkaline Compound Removes Rust in Minute, June 7 p 157  
 Spray Diverse Products Without Changing Setup, Feb 9 p 102

#### Paper Industry:

Paper: New Market In Metal Unfolds, by K. W. Bennett, June 28 p 56

#### Patents:

Inventors flood office with applications, May 10 p 59

#### Peening:

Tests Probe Limits of Controlled Shot Peening, by Wesley W. Safee, Mar 1 p 76

#### Pickling:

Problem of Pickling Wastes Gets Serious Study, Jan 19 p 98  
 Rebuilding Pickling Crates Doubles Service Life, Jan 12 p 102

#### Pipe, Tubes:

Annual Review, Jan 5 p 172  
 Auto Frames Bettered, Feb 16 p 124  
 Clean, Straighten Tube in Single Operation, Jan 26 p 98  
 Get Rid of Kinks by New Tube-Forming Methods, by W. G. Patton, Apr 19 p 95  
 Process is Centralized on Galvanizing Line, June 14 p 122  
 Pry More Speed From New Tube Mill, by E. J. Egan, Jr., Apr 12 p 108  
 Rotary Units Straighten, Temper Copper Tubing, Feb 9 p 113  
 Switch to Weldrawn Tubing Cuts Materials Cost, Mar 1 p 98  
 Technique Uses Bead Filler, Applies Alloy Inside, Jan 19 p 93  
 Tube-In-Strip: Bonanza for Product Designers, by P. M. Unterweiser, Mar 29 p 59  
 Tubes: You Can Blow Them Yourself, by G. G. Carr, Jan 12 p 39  
 Tubing in Sheet and Strip, by G. G. Carr, Mar 1 p 36  
 Tubing Specs 20 Years Old Still Successful, Apr 5 p 124  
 Weld Giant Tunnel Tubes on Assembly Line, Feb 9 p 90

#### Plant Equipment:

Acid Delivery: Tanks Elevated on Truck for Gravity Feed to Bath, May 24 p 192  
 Aluminizing Curbs High Temperature Erosion, by W. G. Patton, Jan 12 p 74  
 Casting Firm Ups Storage by 300 Pct. With Fork Lifts, Feb 2 p 120  
 Conference Method Sparks Effective Safety Program, by A. M. Cooper, Jan 12 p 78  
 Cut Paperwork with a Single-Form System, Mar 22 p 86  
 Deionization System Reduces Sealing in Humidifiers, Feb 16 p 126  
 Do You Really Need More Storage Space? by J. H. Lewis, Feb 9 p 96  
 How to Beat the Heat, June 21 p 89  
 How to Get More for Your Handling Dollar, May 24 p 150  
 How to Get More for Your Handling Dollar, Section 1, Tooling, Mar 8 p 154  
 Keeping Down Dust Makes Good Plant Sense, Apr 19 p 104  
 Metal Lightning Rods Resist Stack Gas, June 7 p 146  
 Multi-Nutsetter Produces Bolted Assemblies Faster, Jan 12 p 86  
 Protection: It's A Serious Business, Feb 2 p 35  
 Rebuilding Pickling Crates Doubles Service Life, Jan 12 p 102  
 Reusable Polyethylene Bags Provide Handy Part Storage, Feb 9 p 121  
 Rubber Conveyors Adapt Easily to Changing Plant Needs, by J. A. Muller, June 21 p 118  
 Stop Playing Hide-and-Seek with Engineering Drawings, by C. M. Gaston, May 17 p 100

#### Plant Layout:

Do You Really Need More Storage Space? by J. H. Lewis, Feb 9 p 96  
 How to Get More for Your Finishing Dollar, Section 1 Plating, June 28 p 100  
 Systematized Approach Pays Handling Profits, by J. G. Long, June 14 p 105

#### Plant Location:

Location: What Planned Sites Offer, Apr 26 p 53  
 Warehouses: To Move Or Not To Move, Jan 26 p 29

**Plastics:**

- German Coating Process Licensed in U. S., Feb 2 p 112  
 New Laminate Developed for Bonding to Metals, Feb 9 p 116  
 New Process Developed for Working Plastics, Apr 12 p 140  
 Plastic Film Recommended for Wrapping Machine Parts, May 24 p 190  
 Plastics Look For Their Biggest Year, by G. G. Carr, June 21 p 64

**Plastics:**

- Polyethylene Pillows Float and Stop Evaporation, June 21 p 146  
 Time For Another Look, by T. M. Rohan, Feb 16 p 59

**Plates, Sheets, Strip:**

- Give Sheet Handling a Lift With Magnets, June 14 p 105  
 Mill Controls Toughen Steel Plate, by J. P. Clair and George Raynovich, May 17 p 104  
 Plates For Wind Tunnel Provide Difficult Job, Feb 9 p 126  
 Tube-in-Strip: Bonanza for Product Designers, by F. M. Unterweiser, Mar 29 p 59

**Porcelain Enamel:**

- NBS Unit Tests Abrasion of Porcelain Enamels, Apr 5 p 128  
 Pre-Enameling Process Aids Porcelain Aluminum, Mar 1 p 164  
 Pre-Enameling Process Develops Better Aluminum Coating, Feb 9 p 118  
 Sales Up, April 19 p 61

**Powdered Metals:**

- Largest Press Compacts Metal Powder Parts, June 7 p 147  
 Metal Powder: Uses Are Growing, by T. M. Rohan, Apr 26 p 62

**Powder Metallurgy:**

- Powder Metallurgy Provides Better Bushing, Feb 9 p 117

**Presswork:**

- Annual Review, Jan 5 p 166  
 Are Holes in Stampings Giving You Trouble? By Frederico Strasser, Apr 5 p 108  
 Are Poor Bends Draining Your Stamping Profits? By Frederico Strasser, May 3 p 100  
 Continuous Line Stamps, Welds Housings Faster, by Herbert Chase, Feb 23 p 90  
 Cut Blanking Costs with Simplified Design, by Frederico Strasser, Mar 15 p 83  
 Design Dies Today, Start Stamping Tomorrow, by C. B. Moore, Apr 19 p 99  
 How Does a Contract Stamper Choose a Press? by C. C. Caditz, Jan 19 p 67  
 How to Choose the Best Drawing Lubricant, by E. L. H. Bastian, June 14 p 102  
 Low-Cost Techniques Simplify Special Bends in Stampings, by Frederico Strasser, June 7 p 124  
 Midget Die Stamps Out Variety of Parts, by Herbert Chase, June 21 p 110  
 Permanent Dies Pare Hammer Stamping Costs, Jan 26 p 82  
 Step up Stamping Production With Flexible Press, by W. G. Patton, June 21 p 120  
 Welding Job Made Easier With Dual-Gas Setup, by F. K. Mack, May 3 p 104

**Presswork, see also Machinery, Presses**

**Prices:**  
 Annual Review, Jan 5 p 140

**Prices, see also Machinery Industry, Steel Industry**

**Punch Cards, Punch Card Systems, see Data Processing**

**Punching and Shearing:**

- Are Holes in Stampings Giving You Trouble? By Frederico Strasser, Apr 5 p 108

**Purchasing:**

- Cut Paperwork with a Single-Form System, Mar 22 p 86  
 How To Get More For Your

- Stainless Steel Dollar, Section 1, Purchasing, Feb 2 p 82  
 How to Get More for Your Tooling Dollar, Section 1, Tooling, Section 2, Tool Steel Charts, Mar 8 p 154  
 Warehouse Buying Economical, by K. W. Bennett, Mar 29 p 19

**Q****Quality Control:**

- Quality Control Travels with Portable Tester, Apr 5 p 112  
 Small Shop Fights Back with Casting Quality, by A. W. Schneble, May 3 p 98

**R****Radioisotopes, see Atomic Energy****Railroad Equipment:**

- New Diesel Engine, June 7 p 136  
 Newly Designed Diesel Engine Locomotive Announced, Mar 1 p 93

**Rare Earths:**

- Annual Review, Jan 5 p 172  
 Rare-Earth Oxides and Salts Ready for Research, Use, June 14 p 122

**Refractories:**

- Stumping Into a Record, by K. W. Bennett, June 7 p 78

**Riveting:**

- Piano Roll Template Plays Complex Riveting Pattern, by J. D. Hutson, May 17 p 102  
 Seal Riveted Trailers Against Submersion, Jan 19 p 72

**Roads:**

- Highways: Get Ready to Roll, by G. H. Baker, June 28 p 54

**Rolling Mills:**

- Atomic Energy: Combination Rolling Mill Processes Reactor Parts, Jan 12 p 98  
 Controls Preselect Complete Rolling Schedules, Feb 2 p 100  
 Mills Turn Out Strip Aluminum, Copper Alloys, Feb 16 p 136  
 Pry More Speed From New Tube Mill, by E. J. Egan, Jr., Apr 12 p 108  
 Regulator Maintains Tension on Ultra-Thin Strip Line, Jan 26 p 96  
 Steel Division Takes Delivery of Cold-Rolling Mill, June 28 p 94

**S****Safety:**

- Accidents: Prevention Starts at Home, May 31 p 27  
 Automatic Fire System Minimizes Paint Shop Risks, Feb 23 p 94  
 Conference Method Sparks Effective Safety Program, by A. M. Cooper, Jan 12 p 78  
 Electronic Meter Traces Out Industrial Noise, May 19 p 117  
 Smog: Why Industry Wants Clear Air, Apr 12 p 64

**Science and Research:**

- Annual Review, Jan 5 p 148  
 Big Centers Mark New Era, May 17 p 58  
 Classifications of Knowledge Housed at Western Reserve, Mar 22 p 115  
 Lab: Why Measure To The Millionths? Feb 16 p 68  
 Laboratory: Where New Sales Are Born, by K. W. Bennett, Feb 9 p 49  
 Search for Inorganic Bond Underwritten, Apr 12 p 137

**Scrap:**

- Annual Review, Jan 5 p 140, 170  
 Crane Doubles up Duties, Loads Scrap and Furnace, May 24 p 200  
 One Man Pulls Strings on Giant Scrap System, by Herbert Chase, Apr 12 p 104  
 Prices Are Acting Up Again, Apr 26 p 57

- Worries in the Midst of Plenty, by G. F. Sullivan, Jan 12 p 36

**Screw Machines:**

- Screw Machine Finger Pads Improve Production, Feb 9 p 128  
 Screw Machines Market Up, Apr 12 p 61  
 Screw Products: How to Buy Better, by T. M. Rohan, May 10 p 56

**Sealants:**

- Combine Rubber-Aluminum for Improved Caulking, Feb 16 p 143  
 Gallium Finds Application as a Glass Sealant, May 10 p 130  
 Seal Riveted Trailers Against Submersion, Jan 19 p 72

**Shell Oil Co.:**

- How to Choose the Best Drawing Lubricant, by E. L. H. Bastian, June 14 p 102

**Silicone:**

- Power Pushes Silicon Growth, by G. J. McManus, June 14 p 63  
 Silicones Protect Metal Samples from Moisture, May 17 p 126

**Silver:**

- Will New Law Avert Trouble? Feb 9 p 51

**Soldering:**

- Brush Technique Helpful in Aluminum Soldering, Jan 26 p 99  
 Fluxless Aluminum Joining Avoids Joint Corrosion, by Samuel Freedman, Mar 1 p 71  
 New Technique Makes Tough Soldering Jobs Easy, May 10 p 102  
 Solder Pellets Double Can Production, Feb 16 p 114

**Stainless Steel:**

- How To Get More For Your Stainless Steel Dollar, Feb 2 p 82  
 Low Carbon, Low Nitrogen Improve Stainless Properties, by F. C. Monkman & N. J. Grant, May 31 p 67  
 Market in Atoms, by G. G. Carr, Mar 8 p 121  
 NBS Announces Six New Stainless Standards, Feb 2 p 110  
 New Method Simplifies Speeds Weld Testing, Jan 26 p 94  
 Nuclear Industry Wants Better Steels, by R. C. Dalzell, June 21 p 112  
 Stainless: Set 'em Up In Other Alloy, Feb 16 p 66  
 Stainless Steel Is a Success in Aircraft Honeycombs, Apr 12 p 141

**Stampings:**

- Low-Cost Techniques Simplify Special Bends in Stampings, by Frederico Strasser, June 7 p 124

**Stamping, see Presswork****Standardization:**

- How to Get More for Your Tooling Dollar, Mar 8 p 154  
 How to Get More for Your Finishing Dollar, Section 2 Metal Cleaning and Finishing Handbook, June 28 p 105  
 Nuclear Standards Board Created by ASA, June 21 p 146

**Steel:**

- Annual Review, Jan 5 p 140, 166

**Steel, Bending and Forming:**

- Continuous Line Stamps, Welds Housings Faster, by Herbert Chase, Feb 23 p 90  
 Flat Finishing Equipment Developed for Drawing, Apr 5 p 138  
 Get Rid of Kinks by New Tube-Forming Methods, by W. G. Patton, Apr 19 p 95  
 How to Get More for Your Metalworking Dollar, Welding, Section 2 Materials, by O. T. Barnett, Apr 26 p 96  
 Induction Heater Paces Speedy Forging, Bending Line, Mar 15 p 98  
 Large Hydraulic Press Brakes Form Heavy Steel Plates, Mar 1 p 102  
 Roll-Formed Steel Rings Machine Well, Feb 2 p 118

**Steel Capacity:**

- Chicago: Metalworking leader, by K. W. Bennett, May 17 p 51  
 New York Lures New Expansion, by G. G. Carr, Feb 23 p 56  
 Steel Expansion Sets Off Equipment Boom, Apr 26 p 55

**Steel Industry:**

- Are We Losing Ground To Reds? Feb 16 p 64  
 Bears Are on the Prowl, May 31 p 23  
 Earnings: They're The Tops, Feb 9 p 48  
 Expansion Money Is a Problem, by Tom Campbell, Mar 22 p 38  
 How New Extras Affect Your Steel Bill, by J. B. Delaney, Feb 9 p 47  
 1955 Was A Profitable Year, by G. J. McManus, Apr 5 p 70  
 Prices are a Touchy Subject, by J. B. Delaney, May 3 p 53  
 Red: New Giant Mill at Cuyahoga, May 17 p 59  
 Steel Strapping: Moving Up, June 21 p 65  
 What Will Price Probe Show? May 17 p 56  
 Warehouse: They Want More Steel, Feb 2 p 44  
 Weir: The Lone Wolf Does It Again, by Tom Campbell, Mar 29 p 24  
 What's Happening Along the Ohio? by G. J. McManus, Apr 5 p 59  
 Why '55 Was A Record, by J. B. Delaney, Mar 15 p 45

**Steel Treatment:**

- Get Top Quality Carburizing With Zone Control, by H. C. Harris, June 21 p 107  
 How To Get More For Your Stainless Steel Dollar, Section 2, Processing, Feb 2 p 90  
 New Carburizing Steels for Critical Gearing, by R. S. Archer, V. A. Crosby and G. A. Timmons, Part 1, Feb 9 p 92; Part 2, Feb 23 p 96

**Steelmaking:**

- Annual Review, Jan 5 p 172  
 Mill Controls Toughen Steel Plate, by J. P. Clair and George Raynovich, May 17 p 104

**Structural Steel:**

- Built-Up Plate Girders Give Headroom, May 3 p 128  
 Channel Struts Make Short Work of Construction, by W. G. Patton, Mar 1 p 67

**Stockpiling:**

- Just Over Half Full, by N. R. Rescimbal, April 5 p 63

**T****Tapping and Threading:**

- Jointed-Arm Drill Reduces Work Time, by 86 Fet, Feb 9 p 124  
 Push Insert Provides Internal Threading, Jan 19 p 94  
 Slip-Squeeze Nuts Simplify Mocking-Up, Apr 26 p 130

**Technion Design & Mfg. Co.:**

- Ceramic Brazing Jigs Cut Cycle Time, Raise Output, by Herbert Schwartz, Jan 12 p 71

**Television:**

- Television: Hopeful Slump, May 24 p 103  
 TV: Color Picture Clear and Bright, by K. W. Bennett, Mar 1 p 29

**Television, see also Electronic Devices and Controls****Testing and Inspection:**

- Annual Review, Jan 5 p 169  
 Army Summarizes Cold Chamber Test Facilities in U. S., Mar 15 p 112  
 Better Notch Impact Test Developed, Jan 26 p 92  
 Can Specimen Size Affect Tensile Testing? By Edward Dugger & Alton Brisbane, Mar 22 p 82  
 Chemists Troubleshoot Shop's Metalworking Puzzlers, by A. J. Zvarick, Apr 26 p 106  
 Device Aids Plotting of Elongation, Jan 19 p 106

Engle-Eyed Inspection Tool Spots Faults Fast, Apr 12 p 106

High-Speed Welder Tests Own Joints, by Glen Farrington, Mar 15 p 96

How to Get More for Your Finishing Dollar, Section 2 Metal Cleaning and Finishing Handbook, June 28 p 130

Magnetic Particle Device Tests Without Electric, Feb 9 p 114

Metal Windows Face Force of 150-Mile Hurricane, Apr 12 p 120

Movies Taken Inside Pipe Check Chain-Reactor Tube, Mar 29 p 84

New Method Simplifies, Speeds Weld Testing, Jan 26 p 94

Precision Assemble with Base Plate Method, May 10 p 98

Simple Test Checks Aluminum Coating Uniformity, by H. J. Wittrock, Feb 16 p 102

Special Hinged 20 x 20 In. Door Solves Test Problem, June 14 p 124

Surface Finish Checking Moves to Production Line, Apr 19 p 124

Temperature Correction System Cuts Rejects by 17 Pct, Feb 16 p 139

Test Friction Effect, Mar 29 p 84

Testing Device Tracks Down Shaft Vibration, May 17 p 99

Ultrasonic Field Inspection Spots Danger Early, by R. N. Hafemeister, Mar 22 p 85

What Can Radiostopes Do for Metalworkers? By C. B. Moore, Mar 29 p 63

Wire Products, June 28 p 88

#### Tinplate:

Are Can Companies Revolting? by K. W. Bennett, June 21 p 61

Big Red Sales Push, March 22 p 44

Watch Operation Survival, Mar 8 p 129

#### Titanium:

Annual Review, Jan 5 p 163, p 172

Control Heat to Drop Titanium Forming Costs, by A. E. Leach and H. M. Lundstrom, Feb 9 p 98

Good Control Makes Titanium Welding a Shop Tool, by F. D. Seaman, May 31 p 64

Standard Tooling Forms Titanium Wheels, by W. L. Cameron & C. H. Savery, June 14 p 100

Symposium Investigates Titanium's Future, Apr 19 p 130

Titanium Invades New Fields with Deep-Drawn Parts, by W. E. Lusby, Jr., L. J. Barron & R. J. Pardo, Mar 29 p 68

Titanium's Role to Increase, Official Says, Apr 12 p 127

Warping in Gun Bolts Prevented in Heating, May 10 p 128

Will Titanium Ever Go Commercial? By P. M. Unterweiser, June 7 p 111

Titanium, see also Nonferrous Metals

Titanium, see also Nonferrous Metals

#### Tool Steel:

Composite Die Sections Trim Cutting Costs, June 7 p 121

How to Get More for Your Tooling Dollar, Section 2, Tool Steel Charts, Mar 8 p 169

Stainless Aids Tools, Feb 2 p 98

#### Tools:

Auto Changes Crowd Shops, by T. M. Rohan, Mar 1 p 27

Combined Unit Provides Drilling, Clad Removal, Feb 23 p 119

Flexible Shaft Machine Simplifies Reaming, Jan 26 p 98

Get Rid of Kinks by New Tube-Forming Methods, by W. G. Patton, Apr 12 p 95

Holding Device Simplifies Electrical Assemblies, May 10 p 133

Multi-Nutsetter Produces Bolted Assemblies Faster, Jan 12 p 86

New Device Can Be Manually Driven Through 1/4 in. Steel, Apr 26 p 121

Plastic Tools Are Cited for Saving Time and Money, Apr 19 p 138

Powder Tools: From Ping to Bang, by D. G. Picinich, Feb 23 p 49

Power Tools: A Battle Rages, by G. J. McManus, Feb 16 p 61

Tooling: Records in Sight, May 3 p 59

Torsion Bars Control Torque in Nut Running Tools, Jan 26 p 76

Tools, Cutting:

Carbide Cutter Ends Chipping on Two Tough Jobs, Jan 19 p 102

Carbide Cutter Reduces Tool Costs, Speeds Production, Feb 16 p 129

Clamped Insert Method Cuts Changing Time, Apr 5 p 133

Columbium Tantalum Improve Carbides, May 3 p 130

#### Tools, Cutting:

Flame-Plating with Tungsten Carbide Extends Drill Life, Mar 15 p 110

How to Get More for Your Tooling Dollar, Section 1, Tooling, Mar 8 p 154

Huge Saw Cuts Into Intricate Contours, Feb 23 p 101

Large Saw Slices Ingots Almost 3 1/2 Ft Thick, Jan 19 p 110

More Forgings Processed with Carbide Cutter, Feb 16 p 140

New Carbide Tool Drills Cast Iron Ten Times Faster, Feb 9 p 87

Oxide Base Cutter Reported Faster, Longer Lasting, Feb 16 p 135

Precision Slicer Shaves Metal Waste, May 3 p 106

Rough Turn Cutting Speeded With Insert, Feb 9 p 119

Steam Treatment Solves Tough Tooling Problem, Apr 5 p 106

Surface Grind Wide Swath in One Pass, June 7 p 117

Table-Type Grinder Drills Close Blade Tolerances, Mar 29 p 74

Throwaway "Ceramic" Cutter Machines All Metals, Apr 19 p 120

"Throwaway" Ceramic Turns New Profits From Old Lathes, by E. J. Egan, Jr., May 3 p 91

Throw-Away Inserts Aid Roughing and Finishing, Apr 12 p 125

Training, see Management

#### Transportation:

Inland Waterways: Big Push Is On, by W. G. Brookfield, Jan 19 p 30

Piggy-Back Spawns A New Industry, by K. W. Bennett, Jan 26 p 27

Routing Guide Available on Piggy-Back Freight, Apr 19 p 140

Shippers: No Relief In Sight, by Tom Campbell, Mar 15 p 48

Trucks, see Automobiles and Trucks

Tubes, Tubing, see Pipe, Tubes

#### Turbines:

Can Precision Casters Meet Gas Turbine Needs? Jan 12 p 80

## U

#### Ultrasonics:

Annual Review, Jan 5 p 169, p 175

Stainless Aids Tools, Feb 2 p 98

Ultrasonic Field Inspection Spots Danger Early, by R. N. Hafemeister, Mar 22 p 88

#### U. S. S. R.:

Russia: An American View of Red Industry, Feb 9, p 53

Steel: Are We Losing Ground to Reds? by Tom Campbell, Feb 16 p 64

## V

Vacuum Melting, see Furnaces, Vacuum

#### Vacuum Metallurgy:

Annual Review, Jan 5 p 172

Why Is The Big Money Behind Vacuum Metals? By P. M. Unterweiser, Jan 26 p 67

Valves and Fittings:

Fluid Controls Institute Adopts Standard Terms, May 10 p 132

Ventilation, see Plant Equipment

## W

#### Warner & Swasey Co.:

Alloy Steels Extend Machine Tool Service Life, by R. T. Hook, Apr 26 p 101

#### Wastes, Disposal:

Case Histories, May 24 p 165

How to Get More for Your Finishing Dollar, Section 1 Plating, June 21 p 103

Wastes, Recovery and Use:

Problem of Pickling Wastes Gets Serious Study, Jan 19 p 98

Process Recovers Pure Zinc From Galvanizers' Waste, May 3 p 124

Watches, see Instruments

#### Water:

How to Get More for Your Finishing Dollar, Section 1 Plating, June 28 p 103

Water Treatment:

Coagulant Aids Water Clarification for Tin Plate Processing, Mar 22 p 102

Deionization System Reduces Scaling in Humidifiers, Feb 16 p 126

Weld Metals:

How to Get Better Welds in a Weldable Steel, by H. S. Davis, Jan 19 p 70

Welded Construction:

All-Welded Frames Picked for Indoor Sports Field, Apr 5 p 134

Giant Machine Gets Extra Strength from Welding, by W. A. Morgan, May 10 p 95

New Type Sheet Steel Dome Saves on Trusses, Metal, Apr 5 p 129

Weld Giant Tunnel Tubes on Assembly Line, Feb 9 p 90

Welded Steel Bridge Use Shows Increase, Apr 19 p 132

Welding and Welding Machines:

Annual Review, Jan 5 p 163

Continuous Line Stamps, Welds Housings Faster, by Herbert Chase, Feb 23 p 90

Fast Deposit Rate Claimed for Magnetic Alloy Additives, Mar 1 p 106

How to Get More for Your Metalworking Dollar, Welding, Section 1 Processes, Section 2 Materials, by O. T. Barnett, Apr 26 p 94

Precision Positioner Has 4000 lb Capacity, June 14 p 126

Welding & Welding Machines, Arc:

Arc Cutting Makes Debut in Tank Fabrication, Apr 5 p 102

"Cold Weld" Nickel Alloys for Atom Plant Use, by E. Nutter, Feb 16 p 111

Good Control Makes Titanium Welding a Shop Tool, by F. D. Seaman, May 31 p 64

Good Handling Steps up Brazing Furnace Output, by D. W. Owen, Jan 19 p 78

How to Get Better Welds in a Weldable Steel, by H. S. Davis, Jan 19 p 70

Pushbutton Setup Welds Aluminum Tubing Joints, by Robert Loose, Mar 1 p 80

Weld Aluminum Two Ways in Mass Production Setup, by L. W. Kunkler, June 7 p 122

Welding Job Made Easier With Dual-Gas Setup, by F. K. Mack, May 3 p 104

Electric Terminals Connected by Resistance Welding, Mar 22 p 114

Electronic Stopwatch Boosts Weld Quality, Apr 19 p 106

High-Speed Welder Tests Own Joints, by Glen Farrington, Mar 15 p 96

How to Weld Zirconium, by Hugh Justis & Chester Lawrence, Mar 22 p 79

Pry More Speed From New Tube Mill, by E. J. Egan, Jr., Apr 12 p 108

Resistance Welder Aids Liner Production, May 3 p 117

Weld Giant Tunnel Tubes on Assembly Line, Feb 9 p 90

Westinghouse Electric Corp.:

Good Control Makes Titanium Welding a Shop Tool, by F. D. Seaman, May 31 p 64

Wheels:

Forming: Versatile Press Line, Feb 23 p 112

Resistance Heating Boosts Forging Efficiency, Feb 16 p 108

Whirlpool-Seeger Corp.:

High-Speed Welder Tests Own Joints, by Glen Farrington, Mar 15 p 96

Wire:

Aluminum Wire Anodized for Electrical Uses, Apr 12 p 132

Automatic Embosser Eliminates Hand Wiring of Tags, Feb 2 p 98

Copper Covered Wire Defies Sleet Storm, Apr 12 p 133

Electrolytic Unit Plates Copper on Stainless Wire, May 3 p 118

New Reel-Less Coil Package for Wire Introduced, May 24 p 186

Packaging, De-Reeling, Shipping Problems Are Solved, June 28 p 93

Testing: Wire Products, June 28 p 88

## X

X-Ray:

New X-Ray Diffractor Unit Gives Speed, Accuracy, May 3 p 122

New X-Ray Film is Faster, Keeps Old Sensitivity, June 7 p 154

Plan X-Ray Unit, Apr 26 p 120

## Y

## Z

Zinc:

Process Recovers Pure Zinc From Galvanizers' Waste, May 3 p 124

Zinc: The Picture Is Two-Sided, Apr 26 p 61

Zirconium:

How to Weld Zirconium, by Hugh Justis & Chester Lawrence, Mar 22 p 79

Reactor Development Aided by Zirconium Producers, May 31 p 85

Zircon Sands Solve Mold Problem, Jan 12 p 100

## AUTHOR INDEX

JANUARY - JUNE 1956

## A

## Abel, Martin:

Dual Spray Approach Can Tailor Your Coating Line, Jan 19 p 80

## Archer, R. S., V. A. Crosby &amp; G. A. Timmons:

New Carburizing Steels for Critical Gearing, Part 1, Feb 9 p 92; Part 2, Feb 23 p 96

## B

## Baker, G. H.:

Highways: Get Ready to Roll, June 28, p 54  
Budget: Will Prosperity Lower Taxes? Jan 19 p 33

## Barnett, O. T.:

How to Get More for Your Metalworking Dollar, Welding, Section 1 Processes, Section 2 Materials, Apr 26 p 94

## Barron, L. J., R. J. Pardo &amp; W. E. Lushy, Jr.:

Titanium Invades New Fields with Deep-Drawn Parts, Mar 29 p 68

## Bastian, E. L. H.:

How to Choose the Best Drawing Lubricant, June 7 p 102

## Bennett, K. W.:

Appliances: Records, Not Obituaries, May 24 p 102  
Building: Records for Equipment Makers, June 14 p 60  
Chicago: Metalworking Leader, May 17 p 51  
Color Coding: New Ryerson System, May 10 p 55  
Exports: The Competition Is Rough, Mar 15 p 50  
Farm Market: More Valleys Than Peaks, Apr 19 p 60  
Laboratory: Where New Sales Are Born, Feb 9 p 49  
Paper: New Market in Metal Unfolds, June 28 p 56  
Pinky-Backed Spawns A New Industry, Jan 26 p 27  
Profit Sharing: Dividends for Everybody, Apr 12 p 60  
Radio: Pocket Models Move into the Plant, Mar 21 p 37  
Refractories: Slumping Into a Record, June 7 p 78  
TV: Color Picture Clear and Bright, Mar 1 p 29  
Tinplate: Are Can Companies Revolting? June 21 p 61  
Unions: Your Engineers Are Vulnerable, Feb 23 p 53  
Warehouse Buying: Economical, Mar 29 p 19

## Bredzs, Nicholas, Harold Schwartzbart &amp; D. A. Canonico:

Braze Strong Joints With Self-Fluxing Alloys, June 14 p 98

## Brisbane, Alton &amp; Edward Dugger:

Can Specimen Size Affect Tensile Testing? Mar 22 p 82

## Brookfield, W. G.:

Coal: Digging Out of a Bad Slump, Jan 26 p 36  
Inland Waterways: Big Push is on, Jan 19 p 30

## C

## Caditz, C. C.:

How Does a Contract Stamper Choose a Press? Jan 19 p 67

## Cameron, W. L. &amp; C. H. Savery:

Standard Tooling Forms Titanium Wheels, June 14 p 100

## Campbell, Tom:

Behind U. S. Steel's Labor Policy, May 10 p 51  
Economy: Don't Give Up The Ship, June 7 p 74  
Lump Ore: A "Gold" Mine Pans Out, Jan 26 p 32  
Negotiations: According to Hoyle, June 14 p 58  
Negotiations: Will Joint Talks Work Out? June 7 p 71  
Odds: 50-50 For Steel Labor Peace, Mar 8 p 115  
Shippers: No Relief In Sight, Mar 15 p 48  
Steel: Are We Losing Ground to Reds? Feb 16 p 64  
Steel: Expansion Money Is a Problem, Mar 22 p 38  
Steel: Hold Onto Your Hat in '56, Jan 12 p 35  
Steel Heading For Overdue Stability, June 28 p 51  
Steel Labor: Storm Signals Are Up, June 21 p 59  
Weir: The Lone Wolf Does It Again, Mar 29 p 24

## Canonico, D. A., Nicholas Bredzs &amp; Harold Schwartzbart:

Braze Strong Joints With Self-Fluxing Alloys, June 14 p 98

## Carr, G. G.:

Alcoholism: You Can Ease Its Headache, Apr 19 p 62  
Aluminum: It's Going After Oil, Feb 16 p 67  
Brass Mills: Seek the Silver Lining, June 7 p 73  
Built-In-Tubes: Moving A Hot Market, Mar 1 p 36  
Chemicals: Metalworking's Big Market, May 10 p 58  
Costs: Are Your Phone Bills Zooming? Jun 19 p 31  
Engineers: Lure Them With Climate, June 7, p 82  
Heat Pumps: They've Come of Age, June 28 p 53  
Oil: Middle East Strife Means Trouble, Mar 29 p 26  
Plastics: Look for Their Biggest Year, June 21 p 64  
Stainless: Market in Atoms, Mar 8 p 121  
Steel: New York Lures New Expansion, Feb 23 p 56  
Tubes: You Can Blow Them Yourself, Jan 12 p 39  
Warehouses: They Want More Steel, Feb 2 p 44

## Carry, T. L.:

All Isn't Joy as SUB Payments Start, May 24 p 99  
Bosses: Do Your Workers Like You? Feb 2 p 38

## Cathey, P. J.:

Designers: Try to Cut Costs, Up Quality, May 24 p 107

## Chase, Herbert:

Assemble First For Lower Painting Costs, Jan 26 p 73  
Continuous Line Stamps, Welds Housings Faster, Feb 23 p 90  
Midjet Die Stamps Out Variety of Parts, June 21 p 110  
One Man Pulls Strings on Giant Scrap System, Apr 12 p 104  
Uniform Output Keyed to Better Handling, Mar 15 p 90

## Clair, J. P. &amp; George Raynovich:

Mill Controls Toughen Steel Plate, May 17 p 104

## Cooper, A. M.:

Conference Method Sparks Effective Safety Program, Jan 12 p 78

## Crosby, V. A., G. A. Timmons &amp; R. S. Archer:

New Carburizing Steels for Critical Gearing, Part 1, Feb 9 p 92; Part 2, Feb 23 p 96

## D

## Dalzell, R. C.:

Nuclear Industry Wants Better Steels, June 21 p 112

## Davis, H. S.:

How to Get Better Welds in a Weldable Steel, Jan 19 p 70

## Delaney, J. B.:

How New Extras Affect Your Steel Bill, Feb 9 p 47  
Inside USWA: What Makes It Tick? Apr 19 p 55  
Steel Prices: How New Extras Affect Your Steel Bill, Jan 9 p 47  
Steel: Prices are a Touchy Subject, May 3 p 53  
Steel: Union Price Tag Is High, May 24 p 101  
Steel: Why '55 Was A Record, Mar 15 p 45

## Dow, E. F.:

Standard Press Line Cuts Production Changeover Time, Apr 19 p 108

## Dugger, Edward &amp; Alton Brisbane:

Can Specimen Size Affect Tensile Testing? Mar 22 p 82

## E

## Egan, Jr., E. J.:

Boost Your Machining Output with "Packaged" Setups, May 17 p 91  
Pry More Speed From New Tube Mill, Apr 12 p 108  
"Throwaway" Ceramic Turns New Profits From Old Lathes, May 3 p 91  
When Are Tape Controls Practical? Mar 8 p 118

## F

## Farrington, Glen:

High-Speed Welder Tests Own Joints, Mar 15 p 96

## Freedman, Samuel:

Fluxless Aluminum Joining Avoids Joint Corrosion, Mar 1 p 71

## G

## Gaston, C. M.:

Stop Playing Hide-and-Seek with Engineering Drawings, May 17 p 100

## Gillette, C. R.:

How to Select Machine Tool Lubricants, Mar 22 p 75

## Gore, R. T. &amp; F. A. Lowenheim:

Can Tin-Zinc Plating Improve Your Products? Mar 15 p 92  
Is Bronze Plating Your Next Step? Feb 16 p 104  
Is Tin-Nickel the New Plating Finish You Need? May 31 p 59

## Grant, N. J. &amp; F. C. Monkman:

Low Carbon, Low Nitrogen Improve Stainless Properties, May 31 p 67

## H

## Hafemeister, R. N.:

Ultrasonic Field Inspection Spots Danger Early, Mar 22 p 88

## Harris, H. C.:

Get Top Quality Carburizing With Zone Control, June 21 p 107

## Hook, R. T.:

Alloy Steels Extend Machine Tool Service Life, Apr 26 p 101

## Hutson, J. D.:

Piano Roll Template Plays Complex Riveting Pattern, May 17 p 102

## I

## J

## Janeway, Eliot:

Is Business Cycle Old Hat? Mar 1 p 34

## Justis, Hugh &amp; Chester Lawrence:

How to Weld Zirconium, Mar 22 p 79

## K

## Kopczynski, J. F.:

New Bearings Convert Old Machines to Ultraspeeds, May 10 p 104

## Kunkler, L. W.:

Weld Aluminum Two Ways in Mass Production Setup, June 7 p 122

## L

Lawrence, Chester & Hugh Justis: How to Weld Zirconium, Mar 22 p 79

Leach, A. E. & H. M. Lundstrom: Control Heat to Drop Titanium Forming Costs, Feb 9 p 98

## Levitt, Theodore:

Forecasting: A Defense Cycle Rebuttal, April 5 p 64

## Lewis, J. H.:

Do You Really Need More Storage Space? Feb 9 p 96

## Long, J. G.:

Systematized Approach Pays Handling Profits, June 14 p 105

**Loose, Robert:**

Pushbutton Setup Welds Aluminum Tubing Joints, Mar 1 p 80

**Lowenheim, F. A. & R. T. Gore:**

Can Tin-Zinc Plating Improve Your Products? Mar 15 p 92  
Is Bronze Plating Your Next Step? Feb 16 p 104  
Is Tin-Nickel the New Plating Finish You Need? May 31 p 59

**Lundstrom, H. M. & A. E. Leach:**

Control Heat to Drop Titanium Forming Costs, Feb 9 p 98

**Lusby, Jr., W. E., L. J. Barron & R. J. Pardo:**

Titanium Invades New Fields with Deep-Drawn Parts, Mar 29 p 68

**Lyssaght, V. E.:**

Abrasive Wheels Simplify Billet Cutting, Feb 16 p 99

**M****Mack, F. K.:**

Welding Job Made Easier With Dual-Gas Setup, May 3 p 104

**Monkman, F. C. & N. J. Grant:**

Low Carbon, Low Nitrogen Improve Stainless Properties, May 31 p 67

**Moore, C. B.:**

Design Dies Today, Start Stamp-  
ing Tomorrow, Apr 19 p 99  
What Can Radiosopes Do for  
Metalworkers? Mar 29 p 63

**Morgan, W. A.:**

Giant Machine Gets Extra  
Strength from Welding, May  
10 p 95

**Muller, J. A.:**

Rubber Conveyors Adapt Easily  
to Changing Plant Needs,  
June 21 p 118

**McManus, G. J.:**

Clad Metals: Out of the Frying  
Pan, June 21 p 63  
Engineers: Too Many Going  
Astray, May 17 p 60  
Handling: Equipment Sales Boom-  
ing, May 24 p 108  
How To Keep Your Operating  
Team in Trim, Mar 15 p 43  
Indirect Selling: It Can Be a  
Short Cut, Mar 8 p 122  
Job Enlargement Is Worth Check-  
ing, Feb 23 p 50  
Lockout: Industry Hits State  
Ruling, Apr 26 p 60  
Plans: Which War Do You Mean?  
Jan 26 p 34  
Power: Pushes Silicon Growth,  
June 14 p 63  
Power Tools: A Battle Rages,  
Feb 16 p 61  
Salesmen: Court 'Em In Field,  
June 7 p 77  
Marketing: Why Research Gets  
Results, June 28 p 58  
Steel: 1955 Was A Profitable  
Year, Apr 5 p 70  
Westinghouse: How Stockholders  
React, Apr 12 p 62  
What's Happening Along the  
Ohio? Apr 5 p 59

**N****Nutter, E.:**

"Cold Weld" Nickel Alloys for  
Atom Plant Use, Feb 16 p 111

**O****Owen, D. W.:**

Good Handling Steps up Brazing  
Furnace Output, Jan 19 p 78

**P****Pardo, R. J., W. E. Lusby, Jr. & L. J. Barron:**

Titanium Invades New Fields  
with Deep-Drawn Parts, Mar  
29 p 68

**Patton, W. G.:**

Aluminizing Curbs High Tem-  
perature Erosion, Jan 12 p 74  
Anodized Aluminum: Rainbow  
Hues Have "Pot - o' - Gold"  
Future, May 3 p 95  
Branching Does Fast Job on  
Slots and Old-Shaped Holes,  
June 7 p 118  
Channel Struts Make Short Work  
of Construction, Mar 1 p 67  
For Hire: Vacuum Casting Ser-  
vice Using Certified Alloys, May  
17 p 94  
Get Rid of Kinks by New Tube-  
Forming Methods, Apr 19 p 95  
Paint Spray Setup Features Qual-  
ity Work, Easy Maintenance,  
May 17 p 96  
Single Grinders Work Three  
Times Faster Than Pairs, Apr  
12 p 93  
Speedy Shell Molding Saves Ma-  
chining Time, Apr 5 p 99  
Step up Stamping Production  
With Flexible Press, June 21  
p 120  
Transfer Machine Makes Crank-  
shafts Initially Straight, Feb  
23 p 87  
Tryout Press Puts Squeeze on  
Downtime, June 14 p 95

**Piccinich, D. G.:**

LPG: Savings For Truck Users,  
Mar 22 p 43  
Powder Tools: From Ping to  
Bang, Feb 23 p 49  
Protection: It's A Serious Busi-  
ness, Feb 2 p 35

**Q****R****Raddant, R. D.:**

Air Conditioning: It's a Hot  
Market, Apr 5 p 66  
Embezzlement: Annual "Take"  
Rises, Mar 1 p 34  
Plant Upkeep: New Ideas Get  
Results, Feb 2 p 41

**Raynovich, George & J. P. Clair:**

Mill Controls Toughen Steel  
Plate, May 17 p 104

**Regeimbal, N. R.:**

Aircraft: Where Should the  
Money Go? Mar 8 p 124  
Censorship: It Threatens Prog-  
ress, Mar 22 p 40  
Atoms: Private Industry Needs  
Help, Mar 15 p 52  
Nickel: User Grips Getting Re-  
sults, June 14 p 62  
Stockpiling: Just Over Half Full,  
Apr 5 p 63  
Trade: Strange Reasoning Aids  
Reds, Feb 23 p 58

**Renier, W. S.:**

Watch these Trends in Punch  
Press Purchasing, Mar 29 p 66

**Rohan, T. M.:**

Fasteners: How to Hold New  
Markets, Jan 19 p 32  
Iron Ore: Why Shippers Rush  
Season, Mar 29 p 27  
Metal Powder: Uses Are Grow-  
ing, Apr 26 p 62  
Plastics: Time For Another  
Look, Feb 16 p 59  
Screw Products: How to Buy  
Better, May 10 p 56  
Taconite Gives New Life to  
Mesabi, Apr 12 p 55  
Tooling: Auto Changes Crowd  
Shops, Mar 1 p 27

**S****Safee, Wesley W.:**

Tests Probe Limits of Controlled  
Shot Peening, Mar 1 p 76

**Savery, C. H. & W. L. Cameron:**

Standard Tooling Forms Tita-  
nium Wheels, June 14 p 100

**Schneble, A. W.:**

Small Shop Fights Back with  
Casting Quality, May 3 p 98

**Schulin, R. O.:**

Campus Recruiting: The Stam-  
pede Is On, May 24 p 105  
House Organs: They Can Save  
Money, June 28 p 60

**Schwartzbart, Harold, D. A.:**

Canonic & Nicholas Bredsz:  
Brazing Strong Joints With Self-  
Fluxing Alloys, June 14 p 98

**Schwartz, Herbert:**

Ceramic Brazing Jigs Cut Cycle  
Time, Raise Output, Jan 12  
p 71

**Seaburg, Carl:**

Coolant Switch Increases Ma-  
chining Speeds, Tool Life, May  
31 p 62

**Seaman, F. D.:**

Good Control Makes Titanium  
Welding a Shop Tool, May 31  
p 64

**Starin, F. J.:**

Color: New Headaches for Fin-  
ishers, May 3 p 54  
Consumer Courses: Teach 'Em to  
Buy, Mar 29 p 28  
Copper: More Pesos for Pro-  
ducers, May 17 p 55  
Copper: Ulcers Aren't In Season,  
June 21 p 62  
LME: Its Worldwide Price In-  
fluence, May 10 p 60  
Miniaturization: A Big Little  
Trend, June 14 p 55  
Movies: Why Go Hollywood?  
Jan 12 p 38  
Nickel: Will Shortages Ever  
Ease? Feb 23 p 47  
Officers: Plush Is The Word, Mar  
15 p 49  
Silver: Will New Law Avert  
Trouble? Feb 9 p 51  
Tooling Plate: Don't Overlook  
Magnesium, Mar 22 p 41

**Strasser, Federico:**

Are Holes in Stampings Giving  
You Trouble? Apr 5 p 108  
Are Poor Bends Draining Your  
Stamping Profits? May 3 p 100

Cut Blanking Costs with Simpli-  
fied Design, Mar 15 p 83  
Low-Cost Techniques Simplify  
Special Bends in Stampings,  
June 7 p 124

**Stroupe, R. M.:**

Appropriations: Air Force Gets  
More, June 28 p 62  
Auto Dealers: Are New Laws  
Necessary? Jan 26 p 31  
Ready: Air Force, Industry Team-  
work, Jan 12 p 40

**Sullivan, G. F.:**

Atomic Energy: Government Grip  
Slips, Apr 5 p 62  
Heaters: A Customer Talks Back,  
Feb 2 p 39  
Scrap: Worries in the Midst of  
Plenty, Jan 12 p 36  
Warehouses: Cost Controls Are  
Needed, Apr 19 p 59

**T****Timmons, G. A., R. S. Archer & V. A. Crosby:**

New Carburizing Steels for Crit-  
ical Gearing: Part 1, Feb 9  
p 92; Part 2, Feb 23 p 95

**Torn, L. J.:**

Get Better Grinds with New Con-  
trol Unit, Mar 15 p 87

**U****Unterweiser, P. M.:**

Cure Cores With CO<sub>2</sub>-In Sec-  
onds, Apr 12 p 95  
Single Glass Mold Smooths Cast-  
ing Wrinkles, May 10 p 91  
Tube-In-Strip: Bonanza for Pro-  
duct Designers, Mar 29 p 59  
Why Is The Big Money Behind  
Vacuum Metals? Jan 26 p 67  
Will Titanium Ever Go Com-  
mercial? June 7 p 111

**V****W****Wittrock, H. J.:**

Simple Test Checks Aluminum  
Coating Uniformity, Feb 16  
p 102

**Wright, G. S.:**

New Control Makes Press Oper-  
ation Easier, Mar 29 p 72

**X****Y****Z****Young, Harrison:**

Foolproof System Doublechecks  
Inventory, Mar 1 p 74

**Zvarick, A. J.:**

Chemists Troubleshoot Shop's  
Metalworking Puzzlers, Apr 26  
p 106

The **IRON AGE**

A CHILTON  PUBLICATION

Chestnut and 56th Sts., Philadelphia 39, Pa.

Printed in U.S.A.